No. _____

IN THE

SUPREME COURT OF THE UNITED STATES

A.S. a 9-year old child with Autism Spectrum Disorder (ASD) entitled to Special Education and Related services per IDEA represented by his parents R.S. *Pro se* and E.S. *Pro se*

Plaintiffs-Petitioners

PETITION FOR A WRIT OF CERTIORARI

-*v.*-

Board of Education Shenendehowa Central School District, Interim Commissioner Betty Rosa, of The University of the State of New York

Defendants-Respondents

On Petition for a Writ of Certiorari
To the U.S. Court of Appeals for the 2nd Circuit

TABLE OF CONTENTS FOR
APPENDIX TO
PETITION FOR A WRIT OF CERTIORARI

Appendix 1, Lee Jones, N., CRS Reports of Congress to Analyze, Intent The Individuals with Disabilities Education Act: Congressional Intent (Dated: May 19, 1995).....App 1

Appendix 2, Grant to Reopen the Time to File an Appeal U.S. District Court N.D.N.Y., dated March 16, 2020.....App 12

Appendix 3, Notice of Appeal to the U.S. Court of Appeals 2nd Circuit (April 2, 2020) .....App 20

Appendix 4, Cohen, H., Amerine-Dickens, M., & Smith, T. (2006). Early intensive behavioral treatment: Replication of the UCLA model in a community setting. Developmental and Behavioral Pediatrics, 27, S145–S155.....App 21

Appendix 5, Howard, J. S., Stanislaw, H., Green, G., Sparkman, C. R., & Cohen, H. G. (2014). Comparison of behavior analytic and eclectic early interventions for young children with autism after three years. Research in Developmental Disabilities, 35 (12), 3326-3344.....App 32

Appendix 6, SRO Decision 17-008, Dated April 4, 2017.....App 51

Appendix 7, Howard, J. S., Sparkman, C. R., Cohen, H. G., Green, G., & Stanislaw, H. (2005). A comparison of intensive behavior analytic and eclectic treatments for young children with autism. Research in Developmental Disabilities, 26, 359–383. .....App 94

Appendix 8, Koegel, R. L., Werner, G. A., Vismara, L. A., & Koegel, L. K. (2005). The effectiveness of contextually supported play date interactions between children with autism and typically developing peers. Research and Practice for Persons with Severe Disabilities, 30 (2), 93-102.....App 119

Appendix 9, Lee, P. F., Thomas, R. E., & Lee, P. A. (2015). Approach to autism spectrum disorder: Using the new DSM-V diagnostic criteria and the Can MEDS-FM framework. Canadian family physician Medecin de famille canadien, 61(5), 421–424. .....App 129

Appendix 10, Sallows, G. O., & Graupner, T. D. (2005). Intensive behavioral treatment for children with autism: Four-year outcome and predictors. AJMR, 110, 417–438. .....App 139

Appendix 11, Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. Journal of Consulting and Clinical Psychology, 55 (1), 3-9. .....App 161

Appendix 12, Opinion of the U.S. District Court N.D.N.Y., dated February 20, 2020. .....App 168

Appendix 13, Order from the U.S. Court of Appeals 2nd Circuit sue sponte dismissal Dated May 8, 2020.....App 196

Appendix 14, Second Amended Complaint to U.S. District Court N.D.N.Y. Dated July 7, 2017. .....App 197

Appendix 15, IHO Decision Case Number 98880, Dated December 30, 2016.....App 304

Appendix 16, Federal Rules of Appellate Procedure Rules 4(a)(6) and 26(c).....App 321

Appendix 17, McEachin, J.J., Smith, T., Lovaas, O.I. (1993) Long-term outcome for children with autism who received early intensive behavioral treatment. AJMR, 97, 4, 359 – 372. .....App 323

Appendix 18, Letter for U.S. District Court Regarding Case 1:17 CV-501-LEK/CFH Dated October 20, 2020.....App 337

Appendix 19, Reply to U.S. District Court's October 20, 2020 letter with record from filing (dated October 15, 2020) with Supreme Court of the United States.....App 339

95-669 A

CRS Report for Congress

The Individuals with Disabilities Education Act: Congressional Intent

Nancy Lee Jones
Legislative Attorney
American Law Division

May 19, 1995

Congressional Research Service · The Library of Congress

THE INDIVIDUALS WITH DISABILITIES EDUCATION ACT: CONGRESSIONAL INTENT

SUMMARY

The Individuals with Disabilities Education Act (IDEA), 20 U.S.C. §§ 1400 *et seq.*, mandates the provision of a free appropriate public education for children with disabilities and provides for Federal funding to assist States and localities in meeting this goal. IDEA is currently up for reauthorization although it may be subject to a one year extension. When IDEA is reauthorized, Congress may consider amendments to the act. In light of the reauthorization issues, questions have arisen concerning the original intent of Congress in enacting the legislation. This report will examine the legislative history of P.L. 94-142 to determine the rationale for its enactment.

An examination of the legislative history of the original act indicates that there were four main reasons advanced for its enactment. These reasons were (1) an increased awareness of the needs of children with disabilities, (2) judicial decisions that found constitutional requirements for the education of children with disabilities, (3) the inability of states and localities to fund education for children with disabilities, and (4) the theory that educating children with disabilities will result in these children becoming more productive members of society and thus lessening the burden on taxpayers to support nonproductive persons.

TABLE OF CONTENTS

INTRODUCTION 1

INCREASED AWARENESS OF THE EDUCATIONAL NEED OF CHILDREN WITH DISABILITIES 2

JUDICIAL DECISIONS FINDING CONSTITUTIONAL REQUIREMENT FOR THE EDUCATION OF CHILDREN WITH DISABILITIES 3

INABILITY OF STATES AND LOCALITIES TO FUND EDUCATION FOR CHILDREN WITH DISABILITIES 5

LONG TERM BENEFITS OF EDUCATING CHILDREN WITH DISABILITIES 7

CONCLUSION 8

THE INDIVIDUALS WITH DISABILITIES EDUCATION ACT: CONGRESSIONAL INTENT

INTRODUCTION

The Individuals with Disabilities Education Act (IDEA),[1] 20 U.S.C. §§ 1400 *et seq.*, mandates the provision of a free appropriate public education for children with disabilities and provides for Federal funding to assist States and localities in meeting this goal.[2] IDEA is currently up for reauthorization although it may be subject to a one year extension.[3] When IDEA is reauthorized, Congress may consider amendments to the act.[4] In light of the reauthorization issues, questions have arisen concerning the original intent of Congress in enacting the legislation. This report will examine the legislative history of P.L. 94-142 to determine the rationale for its enactment.

An examination of the legislative history of the original act[5] indicates that there were four main reasons advanced for its enactment. These reasons were (1) an increased awareness of the needs of children with disabilities, (2) judicial decisions that found constitutional requirements for the education of children with disabilities, (3) the inability of states and localities to fund education for

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[1] This act was formerly referred to as the Education for All Handicapped Children Act. The name was changed by P.L. 101-476. This public law also substituted the phrase "children with disabilities" for the phrase "handicapped children" throughout the statute.

[2] As was stated in the act, its purpose was "to assure that all children with disabilities have available to them....free appropriate public education which emphasizes special education and related services designed to meet their unique needs, to assure that the rights of children with disabilities and their parents or guardians are protected, to assist States and localities to provide for the education of all children with disabilities, and to assess and assure the effectiveness of efforts to educate children with disabilities." 20 U.S.C. § 1400(c).

[3] See "Subcommittee Plans to Extend IDEA Provisions for One Year," 18 Rep. on Disability Programs 45 (March 16, 1995).

[4] Various issues have arisen concerning IDEA. For a discussion of these see Aleman, Steven, "Special Education: Issues in the State Grant Program of the Individuals with Disabilities Education Act," CRS Rep. No. 95-438 EPW (March 20, 1995); Jones, Nancy, "The Individuals with Disabilities Education Act (IDEA): Legal Issues Surrounding the Least Restrictive Environment," CRS Rep. No. 95-286 A (Feb. 13, 1995); Jones, Nancy, "Violence in Schools and the Individuals with Disabilities Education Act," CRS Rep. No. 95-107 A (Jan. 3, 1995).

[5] The House and Senate Reports, the House and Senate Conference Reports and the House and Senate debates were examined. H.Rep. No. 332, 94th Cong., lst Sess. (1975); S.Rep. No. 168, 94th Cong., 1st Sess. (1975), reprinted in [1975] U.S.Code Cong. & Ad. News 1425; H.Conf. Rep. No. 664, 94th Cong., lst Sess. (1975); S. Conf. Rep. No. 455, 94th Cong., 1st Sess. (1975), reprinted in [1975] U.S.Code Cong. & Ad. News 1480 (1975); 121 Cong. Rec. 19482 *et seq.* (1975); 121 Cong. Rec. 23701 *et seq.* (1975); and 121 Cong. Rec. 25534 *et seq.*

children with disabilities, and (4) the theory that educating children with disabilities will result in these children becoming more productive members of society and thus lessening the burden on taxpayers to support nonproductive persons.

INCREASED AWARENESS OF THE EDUCATIONAL NEED OF CHILDREN WITH DISABILITIES

The legislative history of P.L. 94-142 emphasized the increased congressional awareness of the need to educate children with disabilities. For example, the Senate report stated: "(i)ncreased awareness of the educational needs of handicapped children and landmark court decisions establishing the right to education for handicapped children pointed to the necessity of an expanded Federal fiscal role."[6] More specifically, both the House and Senate reports noted that statistics provided by the Bureau for the Education of the Handicapped in the then Department of Health, Education and Welfare indicated that of the more than eight million children with disabilities in the country, "only 3.9 million such children are receiving an appropriate education and 1.75 million handicapped children are receiving no educational services at all, and 2.5 million handicapped children are receiving an inappropriate education."[7]

The congressional debate on P.L. 94-142 also discussed the statistics relating to the provision of education for children with disabilities. It was stated in the House debate that "the need for a strong measure like the Education for all Handicapped Children Act of 1975 is made evident by ... (these) grim and depressing fact."[8] The statistics concerning the education of children with disabilities were discussed in detail in the Senate debates where a table indicating the estimated number of children with disabilities served and unserved by type of disability was inserted.[9] In addition, a report on the status of state education programs for children with disabilities in a state-by-state format was included.[10]

The Senate report discussed the philosophical concept behind a right to education for children with disabilities. The report stated:

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[6] S. Rep. No. 168, 94th Cong., 1st Sess., reprinted in [1975] U.S.Code Cong. & Ad. News 1425, 1429.

[7] H. Rep. No. 332, 94th Cong., 1st Sess. 11 (1975). See also S. Rep. 168, 94th Cong., 1st Sess., reprinted in [1975] U.S. Code Cong. & Ad. News 1425, 1432.

[8] 121 Cong. Rec. 25537 (1975) (Remarks of Rep. Ford).

[9] 121 Cong. Rec. 19487 (1975).

[10] *Id.* at 19487-19492.

> This Nation has long embraced a philosophy that the right to a free appropriate public education is basic to equal opportunity and is vital to secure the future and prosperity of our people. It is contradictory to that philosophy when that right is not assured equally to all groups of people within the Nation. Certainly the failure to provide a right to education to handicapped children cannot be allowed to continue.[11]

JUDICIAL DECISIONS FINDING CONSTITUTIONAL REQUIREMENT FOR THE EDUCATION OF CHILDREN WITH DISABILITIES

The legislative history of P.L. 94-142 indicates in numerous places that the act was a response to lower court decisions, notably *PARC v. State of Pennsylvania,* 343 F.Supp. 279 (E.D. Pa. 1972), and *Mills v. Board of Education of the District of Columbia,* 348 F.Supp. 866 (D.D.C. 1972). For example, the Senate report stated that the legislation as originally introduced "...followed a series of landmark cases establishing in law the right to education for all handicapped children."[12]

PARC was a class action suit by a state association and parents of certain children with mental disabilities. The suit alleged that the state statutes which excluded these children from education in the public schools were unconstitutional but was settled when the parties joined in a joint consent decree. The decree stated in part that all these children must have access to a free public program of education, each of these children must receive education and training appropriate to his or her capacity and, if possible, receive instruction in a class with children who are not disabled. While it was not required to comment on the constitutional issues, the *PARC* court did address the equal protection claim, noting that the court "was satisfied that the plaintiffs have established a colorable constitutional claim...." At 282. This language provided support for later cases.

One of those later cases was *Mills v. Board of Education, supra. Mills* was an action brought on behalf of seven school age children who had been excluded from the District of Columbia public school system after being labeled as behavioral problems, mentally retarded, emotionally disturbed, or hyperactive. These children had received no hearings or review of the decision to exclude. The court in *Mills* held that this denial of an education violated certain statutes and regulations and was a denial of constitutional due process. In addition, the court found that it was a denial of due process to suspend or expel a child without a prior hearing. The court also discussed the defendant's contention

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[11] S.Rep. No. 168, 94th Cong., 1st Sess., reprinted in [1975] U.S. Code Cong. & Ad. News 1425, 1433.

[12] S.Rep. No. 168, 94th Cong., 1st Sess., reprinted in [1975] U.S. Code Cong. & Ad. News 1425, 1430.

that the relief requested was not financially feasible and made the following comment.

> The defendants are required by the Constitution of the United States, the District of Columbia Code, and their own regulations to provide a publicly supported education for these "exceptional" children. Their failure to fulfill this clear duty to include and retain these children in the public school system or otherwise provide them with publicly-supported education and their failure to afford them due process hearings and periodical review, cannot be excused by the claim that there are insufficient funds. At 876. [13]

To the extent that current funding could not finance all the required services and programs, the court found that the funds "must be expended equitably in such a manner that no child is entirely excluded from a publicly supported education consistent with his needs and ability to benefit therefrom." *Id.*

The House Report noted that since the decisions in *PARC* and *Mills*, "there have been 46 cases which are completed or still pending in 28 States."[14] These decisions were described as "a nationwide movement in both State and Federal courts to establish that all handicapped children have a constitutional right to a public education."[15] The legislative history of P.L. 94-142 also indicated that parents should not be forced to rely upon time-consuming judicial action to obtain a public education for their children with disabilities. The Senate report specifically stated:

> It is this Committee's belief that the Congress must take a more active role under its responsibility for equal protection of the laws to guarantee that handicapped children are provided equal educational opportunity. It can no longer be the policy of the Government to merely establish an unenforceable goal requiring all children to be in school. S. 6 takes positive necessary steps to

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[13] For a more detailed discussion of *PARC* and *Mills* and the constitutional issues they present see Tucker and Goldstein, *Legal Rights of Persons with Disabilities: An Analysis of Federal Law* 2:7 - 2:12 (1992). See also *Board of Education of the Hendrick Hudson Center School District v. Rowley*, 458 U.S. 176 (1982), where the Supreme Court noted the importance attached to *PARC* and *Mills* and found that the principles they established were the principles that guided the drafters of the legislation.

[14] H.Rep.No. 332, 94th Cong., 1st Sess. 3 (1975).

[15] *Id.* at 10.

ensure that the rights of children and their families are protected.[16]

INABILITY OF STATES AND LOCALITIES TO FUND EDUCATION FOR CHILDREN WITH DISABILITIES

Another reason advanced for the enactment of P.L. 94-142 was the inability of states and localities to fund education for children with disabilities. In the Senate report it was observed that states had made an effort to comply with the judicial decisions mandating a right to education but that "lack of financial resources have prevented the implementation of the various decisions which have been rendered."[17] The Senate report further noted that this was true despite the fact that courts had stated that the lack of funding may not be used as an excuse for failing to provide educational services.[18]

The debates on P.L. 94-142 also discussed the inability of the States to fund education for children with disabilities. In the Senate debate it was observed that the enactment of P.L. 94-142 would "greatly change the Federal role in the education of handicapped children since historically the States have had the primary responsibility for education."[19] In addition, it was noted that during the hearings on the legislation, "State representatives stressed that a strong supportive Federal role was necessary if States were to meet their responsibilities to handicapped children."[20] Similarly, in the House debate it was stated that State and local educational agencies have a responsibility to provide education but their financial resources were inadequate.[21] The House debates also indicate that the Federal money was to be used for the excess cost of educating children with disabilities and "in no way would the Federal funds be used to supplant State and local funds unless every handicapped child within that State is receiving a free public education."[22]

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[16] S.Rep. No. 168, 9th Cong., 1st Sess. (1975), reprinted in [1975] U.S. Code Cong. & Ad. News 1425, 1433. This language was echoed in the Senate debate during a discussion by Senator Williams, the chairman of the Committee considering the legislation. "It is time that Congress took strong and forceful action. It is time for Congress to assure equal protection of the laws and to provide to all handicapped children their right to education." 121 Cong. Rec. 19485 (1975)(remarks of Sen. Williams).

[17] S.Rep.No. 168, 94th Cong., 1st Sess. (1975), reprinted in [1975] U.S. Code Cong. & Ad. News 1425, 1431.

[18] *Id.* at 1432.

[19] 121 Cong. Rec. 19498 (1975)(remarks of Sen. Dole).

[20] 121 Cong. Rec. 19482 (1975)(remarks of Sen. Randolph).

[21] 121 Cong. Rec. 23702 (1975)(remarks of Rep. Madden).

[22] 121 Cong.Rec. 23704 (1975)(statement of Rep. Brademas).

At several points during the House debate it was noted that an argument could be made that the fiscal burden of educating children with disabilities should remain where it has traditionally been -- that it, with the States and localities.[23] In support of this argument, it can be observed that the judicial decisions mandating education for children with disabilities did not place any requirement on the federal government. However, this argument was criticized in debate.

> Some people feel very strongly....that the burden ought to be where the educational burdens have been in the past, that is with the local and State governments. Others, and I fall in this category, believe that, because of the extreme burden placed upon the real estate taxes of this country which have been used fundamentally to provide education and because of the financial straits in which our States find themselves, it is essential that we change our Federal priorities. New areas of education which must be funded, such as we have here, should be absorbed and taken up within the Federal priorities.[24]

It was further observed that this issue goes to the basic philosophical dispute of who ought to bear the costs.

> An appropriate education has been mandated by the courts. This is not some new program springing out of the imagination or the desires of Congress, starting as something completely new. This is something that is going to be required in educational systems; so regardless of who funds it, if we talk about inflation, of course, there is going to be an increase in expenditures. I would agree it might be more likely that on the State or local level that the budget would be balanced than on the Federal level, but there is no question somebody has to provide for this education.[25]

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[23] See e.g., 121 Cong.Rec. 23705 (1975); 121 Cong. Rec. 25535 (1975).

[24] 121 Cong.Rec. 23705 (1975) (remarks of Rep. Jeffords).

[25] *Id.*

LONG TERM BENEFITS OF EDUCATING CHILDREN WITH DISABILITIES

Practical rationales were also offered as support for the enactment of P.L. 94-142. Following a discussion of the statistics showing the number of children with disabilities who were not receiving an appropriate education, the Senate report discussed the practical implications of these facts.

> The long range implications of these statistics are that public agencies and taxpayers will spend billions of dollars over the lifetimes of these individuals to maintain such persons as dependents and in a minimally acceptable lifestyle. With proper education services, many would be able to become productive citizens, contributing to society instead of being forced to remain burdens. Others, through such services, would increase their independence, thus reducing their dependence on society.[26]

The Senate report also noted that providing educational services would help to decrease the number of persons in institutions. "One need only look at public institutions to find thousands of persons whose families are no longer able to care for them and who themselves have received no educational services. Billions of dollars are expended each year to maintain persons in these subhuman conditions."[27]

The House report echoed this language and after a discussion of the statistics concerning the education of children with disabilities stated that these figures have long-range implications as well as the short-range implication of the denial of educational opportunity. "The long-range implications are that taxpayers will spend many billions of dollars over the lifetime of these handicapped individuals simply to maintain such persons as dependents on welfare and often in institutions."[28] This argument was made in the House debates on P.L. 94-142 as well. Representative Brademas, the Chairman of the Subcommittee on Select Education, stated:

> It is a shameful exercise of the principles on which this country was conceived and developed that our educational system completely excluded 1.75 million of these handicapped children and provides inadequate educational opportunities to over half the total population of handicapped children. This

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[26] S.Rep.No. 168, 94th Cong., 1st Sess. (1975), reprinted in [1975] U.S.Code Cong. & Ad. News 1425, 1433.

[27] *Id.*

[28] H.Rep.No. 332, 94th Cong., 1st Sess. 11 (1975).

> is a waste of one of our most valuable resources, our young people and the potential they possess to become contributing and self-sufficient members of society.[29]

Similarly, in the Senate debates, Senator Williams stated:

> Failure to provide appropriate educational services for all handicapped children results in public agencies and taxpayers spending billions of dollars over the lifetime of these individuals to maintain them as dependents in minimally acceptable lifestyles. Yet, providing appropriate educational services now means that many of these individuals will be able to become a contributing part of our society, and they will not have to depend on subsistence payments from public funds. The time, I hope, has come when we look no longer upon persons with disabilities as charitable objects, unable to make significant contributions. Action on this legislation will establish a public policy which will break the chains of ignorance once and for all.[30]

CONCLUSION

An examination of the legislative history of the Education for all Handicapped Children Act, P.L. 94-142, indicates that there were four main reasons advanced for its enactment. These reasons were (1) the increased awareness of the educational needs of children with disabilities, (2) the judicial decisions finding constitutional requirements for the education of children with disabilities, (3) the inability of states and localities to fund education for children with disabilities, and (4) the long-term benefits of educating children.

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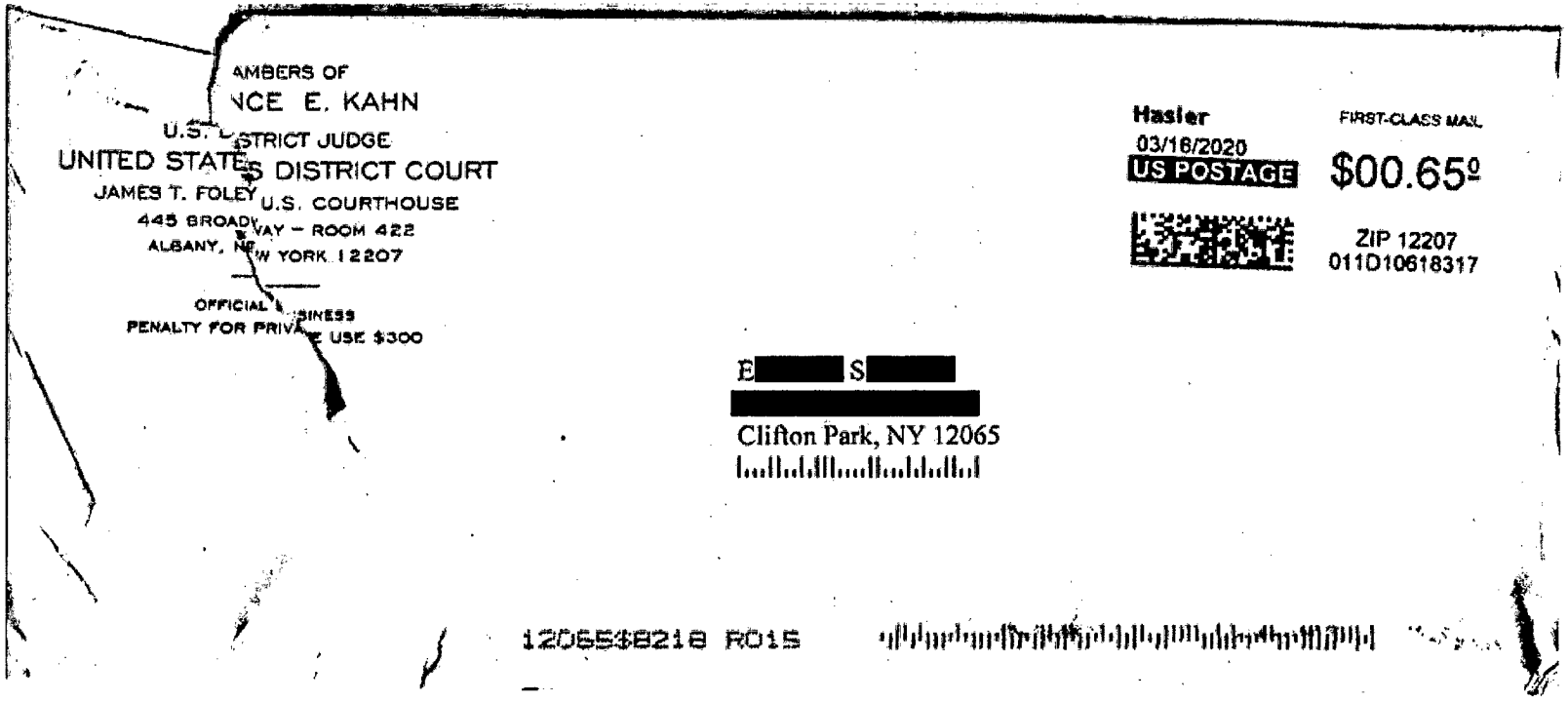
[29] 121 Cong.Rec. 23703 (1975)(remarks of Rep. Brademas). See also 121 Cong.Rec. 25538 (1975)(remarks of Rep. Ford).

[30] 121 Cong. Rec. 19492 (1975)(remarks of Sen. Williams).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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

A.S., *et al.*,

Plaintiffs,

-against- 1:17-CV-0501 (LEK/CFH)

BOARD OF EDUCATION
SHENENDEHOWA CENTRAL SCHOOL
DISTRICT, *et al.*,

Defendants.

DECISION AND ORDER

I. INTRODUCTION

Pro se plaintiffs R.S. and E.S. have brought this action individually and on behalf of their son, A.S., against Shenendehowa Central School District Board of Education ("District") and MaryEllen Elia, commissioner of the State University of New York (collectively, "Defendants"). Dkt. Nos. 1 ("Complaint"); 10 ("First Amended Complaint"); 76 ("Second Amended Complaint"). On February 20, 2019, the Court granted summary judgment to Defendants on all of Plaintiffs' claims and dismissed the action. Dkt. No. 95 ("2019 Memorandum-Decision and Order"). The Clerk of the Court entered judgment in favor of Defendants and dismissed the case that same day. Dkt. No. 96 ("Judgment"). The period in which to file a timely appeal expired thirty days later. On June 20, 2019, E.S. moved the Court to reopen the time to appeal pursuant to Federal Rule of Appellate Procedure ("FRAP") 4(a)(6). Dkt. Nos. 97 ("Motion to Reopen"); 97-1 ("E.S.'s Memorandum"); 97-2 ("Pro Se CM/ECF Registration Form"); 104 ("E.S. Declaration");

105 ("R.S. Declaration").[1] E.S. asserts she did not receive notice of the 2019 Memorandum-Decision and Order and the Judgment until June 14, 2019 when she obtained copies of them from the courthouse. E.S.'s Mem. at 10; E.S. Decl. ¶ 11. And, for his part, R.S. affirms he never provided E.S. notice or copies of the 2019 Memorandum-Decision and Order and the Judgment even though he received notice and copies of them. R.S. Decl. ¶¶ 8–9. Defendants oppose E.S.'s Motion to Reopen. Dkt. Nos. 98 ("Elia Opposition"); 99 ("District Opposition").

For the reasons that follow, E.S.'s Motion to Reopen is granted.

II. DISCUSSION

As another Court in this district has observed: "Rule 4(a)(1) of the Federal Rules of Appellate Procedure provides . . . that a notice of appeal in a civil action must be filed with the district court clerk within 30 days 'after entry of the judgment or order appealed from.'" Dickinson v. New York State Comm'n of Correction, No. 16-CV-898, 2017 WL 2493446, at *1 (N.D.N.Y. June 9, 2017) (quoting Fed. R. App. P. 4(a)(1)). FRAP 4(a)(6), which provides an exception to this requirement, states:

> The district court may reopen the time to file an appeal for a period of 14 days after the date when its order to reopen is entered, but only if all the following conditions are satisfied:
>
> > (A) the court finds that the moving party did not receive notice under Federal Rule of Civil Procedure 77(d) of the entry of the judgment or order sought to be appealed within 21 days after entry;
> >
> > (B) the motion is filed within 180 days after the judgment or order is entered or within 14 days after the moving party receives notice

[1] While R.S. also signed E.S.'s Memorandum, the Court construes the brief to pertain only to E.S. since, as described in more detail below, R.S.—rather than E.S.—received timely notice of the 2019 Memorandum-Decision and Order.

> under Federal Rule of Civil Procedure 77(d) of the entry, whichever is earlier; and
>
> (C) the court finds that no party would be prejudiced.

Fed. R. App. P. 4(a)(6)(A)–(C).

Defendants claim E.S. received timely notice of the 2019 Memorandum-Decision and Order and the Judgment when the Clerk of the Court emailed those items to "motherandfatherobochild@gmail.com." Elia Opp'n at 1; District Opp'n at 1. This is an email address R.S. created on May 31, 2017 to receive CM/ECF[2] notifications pertaining to this action. See Pro Se CM/ECF Registration Form. E.S. does not dispute that the Clerk of the Court emailed notice of the 2019 Memorandum-Decision and Order and the Judgment to motherandfatherobochild@gmail.com once they were docketed. Rather, E.S. attests she did not have access to the motherandfatherobochild@gmail.com account and so did not receive notice of those docket entries. E.S. Decl. ¶ 5. She also affirms that, unlike R.S., she never consented to receiving electronic notifications from the Court. See id. ¶¶ 3–4, 6–9.

To determine whether E.S. did receive timely notice of the 2019 Memorandum-Decision and Order and the Judgment, the Court must first determine whether she received notice in accordance with Federal Rule of Civil Procedure ("FRCP") 77(d). FRCP 77(d) provides in pertinent part that "immediately after entering an order or judgment, the clerk must serve notice of the entry, as provided in Rule 5(b), on each party who is not in default for failing to appear." Fed. R. Civ. P. 77(d)(1). FRCP 5(b) in turn states that a paper may be served by "sending it to a registered user by filing it with the court's electronic-filing system or sending it by other

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[2] CM/ECF refers to the Court's electronic filing system.

electronic means that the person consented to in writing." Fed. R. Civ. P 5(b)(2)(E). Because E.S. never registered for CM/ECF, never consented to receiving court filings through other electronic means, and did not receive notice of the 2019 Memorandum-Decision and Order and the Judgment until nearly four months after they were issued, E.S. did not receive timely notice of those items for the purposes of FRAP 4(a)(6)(A).

The District argues that the Court should presume E.S. received notice of the 2019 Memorandum-Decision and Order and the Judgment because "[p]apers filed on behalf of Plaintiffs throughout and in connection with this action have been filed by the two parents, as joint plaintiffs on behalf of their infant child" through motherandfatherobochild@gmail.com. District Opp'n at 2. But even if one could infer from E.S. and R.S.s' joint filings that E.S. should have received timely notice of the 2019 Memorandum-Decision and Order and the Judgment, "this presumption of receipt can be rebutted by a 'specific factual denial of receipt.'" See Bourgal v. Robco Contracting Enters., Ltd., 17 F. Supp. 2d 129, 132 (E.D.N.Y. 1998) (quoting Nunley v. City of Los Angeles, 52 F.3d 792, 796 (9th Cir. 1995)). Here, E.S. has rebutted the presumption that she received notice of the 2019 Memorandum-Decision and Order by attesting to the fact that she did not have access to the motherandfatherobochild@gmail.com account. Consequently, the Court still finds E.S. has satisfied the first prong of the FRAP 4(a)(6) analysis.

Regarding FRAP 4(a)(6)(B), E.S. filed her Motion to Reopen on June 20, 2019, which was within fourteen days of receiving notice of the 2019 Memorandum-Decision and Order and the Judgment. Mot. to Reopen. E.S. also filed her Motion to Reopen within one-hundred-and-eighty days after the 2019 Memorandum-Decision and Order and the Judgment were entered. Id. Thus, E.S. has satisfied the second prong of FRAP 4(a)(6).

As for FRAP 4(a)(6)(C), the District argues it "would be prejudiced in this matter, having to spend the time and expense of continuing to litigate this matter." District Opp'n at 2. Yet when "there is no prejudice [to a party] beyond the normal risks and costs of opposing an appeal," FRAP 4(a)(6)(C) is satisfied. King v. Fox, No. 97-CV-4134, 2000 WL 1876904, at *2 (S.D.N.Y. Dec. 22, 2000) ("By 'prejudice' the Committee means some adverse consequence other than the cost of having to oppose the appeal and encounter the risk of reversal, consequences that are present in every appeal." (quoting 1991 Note of the Advisory Committee on Appellate Rules)). Hence, the Court finds E.S. has satisfied the third prong of the FRAP 4(a)(6) analysis since Defendants have not identified any prejudice they may suffer beyond the usual risks and costs of opposing E.S.'s appeal.

The Second Circuit has observed that a district court may still deny relief under FRAP 4(a)(6) "even if the requirements [of the rule] are met." Zavalidroga v. Cuomo, 588 F. App'x 61, 62 (2d Cir. 2014) (internal quotation marks omitted). Elia argues that even if E.S. satisfied the three requirements of FRAP 4(a)(6), the Court should still deny E.S.'s Motion to Reopen because "the fault of E.S in not receiving notice of the Decision and Judgment in this case lies with her and with her husband . . . . Plaintiffs make no attempt whatsoever to explain why R.S. did not tell E.S. about the Court's Decision and Judgment." Elia Opp'n at 1–2 (citing WorldCom, Inc., 708 F.3d at 336). While WorldCom did hold that "at a minimum, a district court exercising discretion under Rule 4(a)(6) should give substantial weight to indications that the failure of receipt was the litigant's fault," 708 F.3d at 338, the case is not applicable to the facts of this case. In WorldCom, the attorney for the party moving under FRAP 4(a)(6) had failed to update his contact information. 708 F.3d at 340. The court held that party's "failure to receive Civil Rule

77(d) notice was entirely and indefensibly a problem of its counsel's making, and Rule 4(a)(6) was not designed to reward such negligence." Id. at 340. Unlike the attorney in WorldCom, however, E.S. is a pro se, rather than professional, litigant. While E.S. should have updated her contact information with the Court so that she could receive timely notice of docket entries, her transgression does not warrant denial of her Motion to Reopen. See Marks v. Askew, No. 11-CV-3851, 2013 WL 772657, at *2 (N.D. Cal. Feb. 28, 2013) (concluding that a pro se plaintiff's failure to update her address per the court's local rules is "an insufficient basis" to deny the plaintiff's FRAP 4(a)(6) motion); see also LeSane v. Hall's Sec. Analyst, Inc., 239 F.3d 206, 209 (2d Cir. 2001) ("[P]ro se plaintiffs should be granted special leniency regarding procedural matters.") Furthermore, Elia does not cite to any case law or rule indicating R.S. was required to tell E.S. about the 2019 Memorandum-Decision and Order and the Judgment. Therefore, the Court does not find Elia has adequately explained why E.S. and R.S. were at fault for E.S. not receiving notice of the 2019 Memorandum-Decision and Order and the Judgment.

III. CONCLUSION

Accordingly, it is hereby:

ORDERED, that E.S.'s Motion to Reopen (Dkt. No. 97) is **GRANTED**; and it is further

ORDERED, that, pursuant to FRAP 4(a)(6), E.S. must file her appeal of the 2019 Memorandum-Decision and Order and the Judgment with the Court within **fourteen** days of this Decision and Order; and it is further

ORDERED, that the Clerk of the Court send notice of this Decision and Order and all future docket entries to E.S. at her address on file with the Court. The Clerk shall serve a copy of this Decision and Order on all other parties in accordance with the Local Rules; and it is further

ORDERED, that if E.S. would like to change the way she receives docket notifications in this case then she should promptly so notify the Court in writing.

IT IS SO ORDERED.

DATED: March 16, 2020
Albany, New York

Lawrence E. Kahn
U.S. District Judge

UNITED STATES DISTRICT COURTS
NORTHERN DISTRICT OF NEW YORK

A.S. a 9-year old child with Autism Spectrum Disorder (ASD) entitled to Special Education and Related services per IDEA represented by his parents R.S. *Pro se* and E.S. *Pro se*

Plaintiffs-Appellants

-against-

Board of Education Shenendehowa Central School District, Interim Commissioner Shannon Tahoe, of The University of the State of New York

Defendants-Appellees

NOTICE OF APPEAL

Case No. **1:17-CV-501 (LEK/CFH)**

Notice hereby given that, plaintiffs-appellants E.S. *Pro Se* and R.S. *Pro Se* on behalf of A.S. in the above-named Case No. 1:17-CV-501 (LEK/CFH) hereby appeal to the United States Court of Appeals for the Second Circuit from the February 2019 Memorandum-Decision and Order (Dkt. Nos. 95 and 96) that dismissed plaintiffs claim in their entirety. Motion to Reopen Granted (Dkt. No. 107) on March 16, 2020 and sent via USPS mail on March 16, 2020 considered received on March 19, 2020 in Action No. 1:17-CV-501-LEK/CFH.

Respectfully Submitted April 2, 2020

s/ E.S. *Pro se* and R.S. *Pro se* on behalf of A.S.

Motherandfatherobochild@gmail.com

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Treatment

Early Intensive Behavioral Treatment: Replication of the UCLA Model in a Community Setting

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ABSTRACT. Although previous studies have shown favorable results with early intensive behavioral treatment (EIBT) for children with autism, it remains important to replicate these findings, particularly in community settings. The authors conducted a 3-year prospective outcome study that compared 2 groups: (1) 21 children who received 35 to 40 hours per week of EIBT from a community agency that replicated Lovaas' model of EIBT and (2) 21 age- and IQ-matched children in special education classes at local public schools. A quasi-experimental design was used, with assignment to groups based on parental preference. Assessments were conducted by independent examiners for IQ (Bayley Scales of Infant Development or Wechsler Preschool and Primary Scales of Intelligence), language (Reynell Developmental Language Scales), nonverbal skill (Merrill-Palmer Scale of Mental Tests), and adaptive behavior (Vineland Adaptive Behavior Scales). Analyses of covariance, with baseline scores as covariates and Year 1-3 assessments as repeated measures, revealed that, with treatment, the EIBT group obtained significantly higher IQ ($F = 5.21$, $p = .03$) and adaptive behavior scores ($F = 7.84$, $p = .01$) than did the comparison group. No difference between groups was found in either language comprehension ($F = 3.82$, $p = .06$) or nonverbal skill. Six of the 21 EIBT children were fully included into regular education without assistance at Year 3, and 11 others were included with support; in contrast, only 1 comparison child was placed primarily in regular education. Although the study was limited by the nonrandom assignment to groups, it does provide evidence that EIBT can be successfully implemented in a community setting. *J Dev Behav Pediatr 27:145–155, 2006.* Index terms: *autism, early intervention, applied behavior analysis, behavioral treatment.*

The design and implementation of methodologically rigorous treatment studies are daunting tasks and, in the area of treatment for autism spectrum disorders, often emotionally charged and publicly vetted as well. Matching groups on a variety of important measures, including severity of disability, individual characteristics of the child, multiple important socio-familial and environmental factors, as well as controlling multiple treatment issues such as fidelity, intensity and length of treatment and pre-determining appropriate outcome measures are all challenging (and expensive). Moving treatment studies from the laboratory setting into the community presents additional hurtles, yet this is ultimately the setting in which the efficacy of treatment models needs to be evaluated. Cohen and colleagues are to be commended for implementing a community-based treatment study with matched samples, documentation of treatment fidelity, and comprehensive 3-year follow-up. However, the setting was based in a community program that is mandated to provide treatment to families of children with autism spectrum disorders who are then free to accept a plan or not, which prohibited random assignment to treatment. This introduced potential bias in their groups, with more educated and dual parent families in the EIBT group. There are strengths as well as limitations in this study. Although it does not resolve the controversies that continue regarding the "best" treatments for young children with ASD, we include it because of the critical need for evaluation of treatment approaches. The reviewers pointed out the limitations in this community approach as well as its strengths. The reader is encouraged to look at both in reviewing this article. We hope that it will inspire others to do these vitally needed treatment effectiveness studies. —Editor

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In an era when Autistic Spectrum Disorder (ASD) was viewed as largely untreatable,[1] Ivar Lovaas' 1987 outcome study[2] became a pivotal event that provided optimism about behavioral interventions for ASD. Almost half (9 of 19) of the children with autism who began intensive behavioral treatment prior to the age of 4 years from the UCLA/Lovaas clinic (40 hours per week for 2 or more years) were fully included into regular education and showed significant gains in intellectual achievement. A follow-up study of the same children showed sustained gains.[3] This finding, coupled with a general trend toward earlier diagnosis of ASD (under 3 years of age)[4] and the recent exponential increase in documented cases of ASD,[5] made Lovaas' results even more influential and replication of his research more compelling.

Replication of the UCLA/Lovaas Model involves the following key elements[6]: (1) clinical internship and training on the UCLA/Lovaas Model of intervention under the direction of qualified supervisors; (2) implementation of the model for 35 to 40 hours per week throughout the year, including one-to-one instruction, peer play training sessions, inclusion into regular education classrooms, and generalization activities; (3) parent training to foster the child's acquisition and generalization of skills; and (4) annual outcome measures.

Several studies have partially replicated the UCLA/Lovaas Model. In the only randomized clinical trial, 28 children with ASD received either intensive behavioral treatment or parent training.[7] The intensive treatment group averaged 25 hours per week in the first year which faded over the next 1 to 2 years. The comparison group participated in 10 to 15 hours per week of special education classes and received 5 hours per week of parent training for 3 to 9 months. The intensive children outperformed the comparison children on intellectual, visual-spatial, and academic measures. However, gains were substantially smaller than in Lovaas' original study. For example, the between-group IQ difference at follow-up was 16 points compared to the 31 reported by Lovaas. In other partial replications of the UCLA model, children with ASD obtained 15 to 35 hours per week of treatment and obtained results similar to those reported in the randomized clinical trials[8,9]; similar results also have been reported for other early intensive behavioral treatment (EIBT) models with about 25 hours per week of treatment.[10,11]

Concerns have been expressed about the difficulty of offering treatment at this level of intensity to community samples,[12] and mixed results of EIBT in community settings have been reported. One investigation indicated a lack of significant improvements in a sample of 66 children with ASD.[13] A multiple baseline study of 6 children found clear short-term gains but equivocal long-term effects.[14] However, a third study reported that an EIBT group (n = 29) in a community agency made statistically significant gains in all areas of development except motor skills, relative to 2 comparison groups.[15] Moreover, 13 of the 29 EIBT children (45%) achieved IQs in the average to above average range. In the first replication of the UCLA Model that included all of the elements identified by Lovaas, 11 of 23 children with ASD (48%) achieved full inclusion into regular education and IQ scores greater than 85.[16] However, the study did not have a comparison group.

Although these studies generally confirm that EIBT is effective, differing results across studies and methodological limitations such as the absence of comparison groups in many reports weaken the ability to truly validate the optimism generated by the initial Lovaas study. Accordingly, the present study was an attempt to fully replicate that study in a community setting. Research questions included the following: (1) Can the Lovaas/UCLA model be replicated in a community setting? (2) What outcomes do children with ASD achieve with this intervention?

METHODS

Participants

Participants were 42 children in 2 groups: The early intensive behavioral treatment (EIBT) group (n = 21) received 35 to 40 hours of behavioral intervention, 47 weeks per year, for 3 or more years. The comparison group (n = 21) received services from local public schools. In accord with the UCLA Young Autism Project multisite research replication protocol, participation criteria for both groups included (1) primary diagnosis of autistic disorder or pervasive developmental disorder not otherwise specified based on an evaluation by an independent licensed psychologist and confirmed by the Autism Diagnostic Interview–Revised,[17] (2) pretreatment IQ above 35 on the Bayley Scales of Infant Development–Revised (BSID-R),[18] (3) chronological age between 18 and 42 months at diagnosis and under 48 months at treatment onset, (4) no severe medical limitation or illness including motor or sensory deficits that would preclude a child from participating in 30 hours per week of treatment, (5) residence within 60 km of the treatment agency, (6) no more than 400 hours of behavioral intervention prior to intake, and (7) parent's agreement to participate actively in parent training and generalization and to have an adult present during home intervention hours.

In addition to the 21 participants in each group, there were 5 dropouts who were excluded from the data analyses (3 in the EIBT group and 2 in the comparison group). One EIBT participant moved out of the area at 17 months into treatment and was unavailable for follow-up; 2 withdrew their participation, 1 at 3 months and the other at 18 months. Dropouts were similar to completers with regard to age of diagnosis (24, 36, and 22 months), baseline IQ (42, 44, and 44), and 1-year IQ (58 and 61; score unavailable for participant who dropped out after 3 months). Two comparison children were dropped because parents either declined annual testing of their child or could not be contacted. All other eligible referrals enrolled in the study, completed yearly follow-up assessments, and were included in the data analyses.

All treatment in both groups was provided at no cost to families. Funding was split between 2 public agencies: (1) the Valley Mountain Regional Center (VMRC; Stockton, CA) and (2) the child's Special Education Local Planning Area (SELPA) of residence. VMRC is contracted by the California Department of Developmental Services to

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identify and coordinate services for individuals with developmental disabilities; its catchment area includes San Joaquin, Stanislaus, Calaveras, Amador, and Tuolumne Counties. SELPAs are contracted by the California Department of Education to provide special education instruction.

Design

Inasmuch as VRMC and SELPA had a mandate to provide free and appropriate services, legal and ethical considerations precluded random assignment of children to groups. Therefore, a quasi-experimental design was used. A comparison group was formed by identifying children who met participation criteria for EIBT and whose parents chose other services. Specifically, for each EIBT participant, a file review was initiated at VMRC to identify a matching child who was not receiving EIBT; the first identified child was then added to the comparison group. Comparison children were followed prospectively and received the same annual assessments as EIBT children.

To ensure that choices were available to families and that families were aware of these choices, VMRC and SELPA 6, along with nonpublic educational agencies and parents, developed an ongoing collaborative program (Autism Connection).[19] The Early Autism Diagnostic Clinic (EADC) was created by the Autism Connection (1) to provide expert evaluations for autism and related disorders (or referrals to other experts in the area) and (2) to bring together local clinicians, VMRC, parents, school district representatives, and advocates to communicate directly with each other, at the EADC, rather than requiring the parents to endure separate meetings. At the time of diagnosis, an educational consultant from the EADC and a representative from the school district of residence presented the family, orally and in writing, a Matrix of Educational Options developed by the Autism Connection. This matrix delineates the service agencies in the child's area of residence and their eligibility criteria, along with the roles and responsibilities of parents, service providers, and funding agencies in implementing interventions.

Options included special education settings, Autistic Spectrum Disorder (ASD) classes, speech and language services, occupational therapy, genetic counseling, behavior intervention services, grief counseling, Early Start programs for children under 3 years old, and EIBT Programs, including the agency in this study (Central Valley Autism Project; CVAP) and other EIBT providers. During the enrollment period (1995–2000), the number of other EIBT providers ranged from 1 to 3. At times when CVAP did not have openings, the education consultant and school representative removed CVAP from the Matrix. EADC educational consultant and school representatives were otherwise independent of the study.

Treatment Procedures: EIBT Group

EIBT consisted of 35 to 40 hours per week of intervention based on Lovaas' UCLA treatment model.[2,6,20] Seventeen of the 21 participants remained in EIBT for 3 years. Four others ended EIBT prior to 3 years but completed follow-up assessments and are included in the statistical analyses; 1 completed the intervention protocol and was fully included in regular education at Year 2, whereas 3 others were transferred to other services (2 after 6 months and 1 at Year 2) because their progress did not meet specific, predetermined developmental markers for continuing intervention. Markers at 6, 12, 24, and 36 months were identified collaboratively by Autism Connection.[21] For example, at 24 months, the IEP team considered whether the child showed one or more signs of progress such as the following: (1) the child's standardized cognitive testing indicated steady growth or near-average functioning; (2) objective data collected on EIBT instruction demonstrated that the child was mastering new skills; (3) objective data revealed an increase in the child's frequency of initiating language or peer interaction; or (4) the child was included in a general education placement with similar-aged peers for systematically increasing increments of time and was acquiring age-appropriate pre-academic skills.

The EIBT agency, CVAP, met all criteria for replication of Lovaas' UCLA treatment model and participated in a multicenter study supported by the National Institute of Mental Health. The UCLA model relies exclusively on behavioral techniques such as unambiguous instruction, shaping through positive reinforcement of successive approximations, systematic prompting and fading procedures, discrimination learning, and careful task analysis. Positive reinforcers such as edibles, sensory and perceptual objects are used initially but soon replaced by social reinforcers such as praise, tickles, hugs, and kisses. Ongoing data collection is performed to monitor skill acquisition, generalization, and frequency of problem behaviors. The intervention protocol consists of 3 primary components: (1) In-home 1:1 instruction, (2) peer play training, and (3) regular education classroom inclusion. No aversive interventions were used throughout the study.

Initially, the In-Home 1:1 Intervention Component is implemented 35 to 40 hours per week for children older than 3 years, and 20 to 30 hours per week for children younger than 3 years. The focus is on establishing foundational and spontaneous communication. The main teaching format is discrete trials,[22] but generalization activities and community outings are also part of the 35 to 40 hours per week of instruction. In discrete trials, the tutor works individually with a child in a distraction-free setting and administers 3 to 8 trials in a sitting, with 1- to 2-minute breaks between sittings, for approximately 50 minutes each hour. The remaining 10 minutes of each hour are devoted to generalization activities. These activities include structured play, in which the child has opportunities to apply skills initially mastered in the 1:1 setting (e.g., labeling toys or taking turns with the tutor during a game), and incidental teaching, in which situations were arranged to encourage initiation of language (e.g., placing preferred objects in sight but out of reach). Skill mastery in discrete trials was defined as 90% accuracy across 2 days of intervention, across 2 or more tutors. Concept mastery was defined as 90% accuracy of 5 to 10 novel items probed and mastered within a concept. After mastery, skills and concepts were

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systematically generalized to other more naturalistic settings and maintained by available contingencies in the natural environment. To facilitate generalization, community outings occurred 3 to 5 times per week. The UCLA curriculum was used for teaching the initial foundation skills including compliance, imitation, early receptive and expressive language, visual spatial skills, and self-help.[6,20]

At approximately 1 year into the behavioral intervention, the distribution of the 35 to 40 hours per week is typically as follows: 26 to 31 of home instruction, 3 to 5 hours of peer play, and 6 to 9 hours at preschool. Thereafter, the home component gradually decreases, whereas other components gradually increase based upon the child's inclusion in the classroom.

As part of the generalization of skills and behaviors to the natural environment, the peer play component is initiated 3 to 5 sessions per week with a typically developing peer for 15 to 60 minutes per session when the child has mastered prerequisite skills: verbal response to questions, on topic statements, simple play skills, and turn taking.[2,6,20] Skills mastered in the 1:1 setting are systematically generalized to a social/play setting with a peer of similar age. A trained tutor facilitates mastered activities for the child and peer (e.g., conversation, pretend play with toys, or turn-taking games) and prompts the peer to engage the child with subtle cues such as whispers in the peer's ear, visual signals, or indirect questions. When the child is 90% accurate initiating with peers across 3 or more peers for 18 to 24 months, additional children are presented at one time to form a group play setting.

At about the time that peer play training is initiated, the child enters a teacher-directed structured regular education preschool setting.[2] Initially, trained tutors accompany the child to school to assist the teaching staff with gaining instructional control, generalizing mastered skills to the school setting, and learning classroom skills. The tutor functions as a classroom aide and not as a 1:1 aide for the child. Initial goals for inclusion center on generalizing skills to a novel, yet structured environment. As the child achieves independent responding during specific activities (e.g. circle time, center time, and so forth), as determined by data, the shadow tutor is faded. Activities requiring social skills and behaviors are always the last to fade in the process.

When children have achieved typical levels of academic functioning in the classroom and participate without the assistance of a shadow tutor during teacher-directed activities, they still may require the assistance of the shadow tutor during social opportunities throughout the school day for an additional 2 to 3 years. Thus, an intervention with reduced hours both at home and in school may extend into the early primary grades. School hours focus on generalization of social skills and friendship development. As the child's rate of independent social interaction increases, the intervention hours are successively reduced to 0. Subsequently, consultation to the family and the school setting continue 1 to 2 hours per month for up to 1 to 2 years. Home hours focus on play sessions with peers and gradually transition to typical play dates with peers without the presence of a tutor. Periodic standardized assessments continue until the child is 18 years old.

During the course of the study, there was a growing recognition that many children who made significant gains in the first 2 years of treatment required training beyond the UCLA curriculum to develop mutually satisfying social relationships, enhance their understanding of social meanings, understand and interpret other's perspectives/knowledge/cognition/beliefs, and ultimately respond appropriately to social behaviors of peers and others. To address this need, overt social behaviors were operationally defined, both verbal (e.g., conversational skills, such as responding to statements or questions asked by others, reciprocal statements, initiating conversation, inquiring about others, remaining on topic, and sustaining conversation) and nonverbal (e.g., interpreting and responding to other's facial expressions, emotional states, voice tone, or body language), and initially taught in a discrete trial format, using the same behavioral principles and methodology described above, with an emphasis on a quick transition to generalized teaching to a social context, using incidental teaching and video modeling as tools for generalization.

Staff and Parent Training. To ensure proficiency in implementing the UCLA model, 5 CVAP staff members each completed 3- to 4-month internships at UCLA, and consultants from UCLA made on-site visits 2 to 4 times per year for the first 3 years of the study period, with frequent telephone contacts between visits (typically once per week). During this period, a random sample of 12 CVAP tutors were videotaped and scored by blind raters for adherence to UCLA procedures. The level of adherence by CVAP tutors was found to be nonsignificantly higher than adherence by tutors employed at UCLA.[23]

One UCLA-trained individual served as CVAP site director, responsible for oversight of each child's intervention; she holds a master's degree in clinical psychology/applied behavior analysis and is a Board Certified Behavior Analyst. Clinic supervisors trained and provided ongoing performance feedback to tutors. Supervisors were graduate students in behavior analysis or master's level clinicians with 2 or more years of experience in providing EIBT. Tutors were recruited from the community and were the main providers of direct services. Supervisors and tutors were assigned to each EIBT participant based on openings in their schedule and geographic location.

To become a supervisor, individuals had to meet prespecified, objective criteria, including high ratings based on direct observation of their implementation of EIBT interventions, favorable evaluations from families and staff members, satisfactory performance on a test of skill at curriculum development, and oral and written demonstration of their knowledge of applied behavior analysis and ASD.[24] Tutors had to pass a rigorous behavior observation assessment of their accuracy in conducting discrete trial training (DTT) and oral tests of their knowledge of the UCLA treatment manual.

Parents were encouraged to be involved in all levels of intervention. At the beginning of treatment, all parents attended a 12- to 18-hour training workshop across 2 to 3 days on behavioral principles and intervention methods. Thereafter, they participated in weekly training sessions to

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generalize their child's newly established skills to the natural environment. Parents provided ongoing information regarding their child's current level of functioning both in and out of intervention sessions, and they were asked to be active participants in their child's intervention, although there was no requirement for parents to provide any direct intervention hours.

Treatment Procedures: Comparison Group

Participants in the Comparison Group received community services that their families selected from the Matrix of Educational Options. At intake, 1 comparison child, under 3 years old, received an Early Start Autism Intervention Program, which emphasized learning readiness skills with both the parent and child. This child received less than 9 hours per week of a discrete trial program in his or her home, until the age of 3. Two comparison children received a home-based developmental intervention that ranged from 1 to 4 hours a week. At age 3, these 3 children were enrolled in a public school Special Day Class (SDC). Seventeen children who were 3 and above at intake were enrolled in SDC in the public schools. No records were available for 1 child. The instructional methodology in the SDC placements was eclectic, the child/teacher ratios varied from 1:1 to 3:1, and the classes operated for 3 to 5 days per week, for up to 5 hours per day. Related services such as speech, occupational, and behavioral therapy to these children varied from approximately 0 to 5 hours per week Three of the children spent brief sessions (up to 45 minutes per day) mainstreamed in regular education. Due to the diverse interventions provided to the comparison group, it was not possible to monitor treatment fidelity for this group.

Assessment

At pretreatment, a licensed psychologist at EADC who was independent of the study administered a standardized behavior observation,[25] parent interview, and developmental tests, including the BSID-R, Merrill-Palmer Scale of Mental Tests,[26] Reynell Developmental Language Scales,[27] and Vineland Adaptive Behavior Scales.[28] The BSID-R extrapolated table was used to generate a standard score for children who obtained an IQ below 50.[29] Administration of the BSID-R began at the starting point for the child's chronological age (or at the highest starting point for the test if the child was older than 42 months). The examiner administered each successive item after the starting point to establish a basal and ceiling; if the child did not obtain a basal on these items, the examiner administered each preceding item in succession until a basal was achieved and then followed rules in the test manual for establishing the ceiling.

From the evaluation, the psychologist made a DSM-IV diagnosis of autism or Pervasive Disorder, Disorder Not Otherwise Specified (PDDNOS).[30] Subsequently, the diagnosis was confirmed by the Autism Diagnostic Interview-Revised (ADI-R),[17] administered by a certified examiner employed by CVAP. The developmental tests (but not the ADI-R) were repeated in annual follow-up evaluations. If a participant performed at the ceiling of the BSID-R, this test was replaced with the Wechsler Preschool and Primary Scales of Intelligence.[31] Follow-up evaluations were conducted by an independent, self-employed, highly-skilled, licensed, child evaluator. VMRC made the referral and funded the evaluations. The referral to the evaluator consisted only of the name of the child, birth date, parent's names, and telephone number.

Data Analysis

IQ was the main measure of treatment response in previous EIBT studies[6–16] and was designated as the primary outcome measure in the present study. Secondary outcome measures were the Merrill-Palmer Scale of Mental Tests, Reynell Language Comprehension, Reynell Expressive Language, Vineland Adaptive Behavior Scales, and classroom placement.

To test our main hypothesis that the EIBT group would differ from the comparison group on outcome measures, we performed a repeated-measures analysis of covariance (ANCOVA) for each measure, with pretreatment score as the covariate and Year 1, Year 2, and Year 3 scores as the repeated dependent measures. Consistent with standard assumptions for an ANCOVA,[32] analyses of skew and kurtosis, as well as visual inspection, were consistent with a normal distribution in our data. Hyunh-Feldt epsilon tests confirmed that the data showed compound symmetry ($\varepsilon >$ .90), unless otherwise noted in Results.

As is usual in outcome studies with repeated measures, a few participants had missing data at one or more time points. For each outcome measure, we employed the standard procedure of removing participants with missing data from the analysis.[32] This procedure is appropriate when missing data are random or unbiased. We used visual inspection to confirm that the missing data were unbiased (e.g., the data were not primarily from participants who had unfavorable outcomes or who did not complete the full 3 years of intervention), and –Results– show the number of participants retained for each analysis.

In as much as the EIBT and comparison groups differed on several demographic variables (mother education, father education, and diagnosis), we explored whether adding these variables as covariates in the ANCOVA model would change the interpretation of the results. These analyses need to be interpreted with caution because they involve a larger number of variables than is usually considered appropriate for the relatively small sample size in the present study. However, they provided some information on whether or not the groups differed when we statistically controlled for demographic variables.

When an ANCOVA revealed a between-group difference on an outcome measure, we hypothesized that the EIBT group would show an increase in scores from Year 1 to Year 2 to Year 3, whereas scores in the comparison group would remain stable. To test this hypothesis, we examined whether the ANCOVA yielded a statistically significant Group × Time interaction; if so, we performed planned comparisons to test for an increase from Year 1 to Year 3 in the EIBT group.

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Table 1. Background Information for the EIBT Group (n = 21) and Comparison Group (n = 21)

	EIBT	Comparison
Demographics		
Male/Female	18:3	17:4
Diagnosis (Autism/PDDNOS)*	20:1	15:6
Age at diagnosis [(*M*(SD)]	30.2 (5.8)	33.2 (3.7)
Mother education, yr [(*M*(SD)]*	15.3 (2.9)	13.1 (1.6)
Father education, yr [(*M*(SD)]*	15.8 (2.9)	11.8 (2.3)
Two-parent household (yes/no)*	21:0	14:7
Pretreatment Test Scores [(*M*(SD)]		
IQ	61.6 (16.4)	59.4 (14.7)
Merrill-Palmer	82.4 (17.3)	73.4 (11.9)
Reynell		
Language Comprehension	51.7 (15.2)	52.7 (15.1)
Expressive Language	52.9 (14.5)	52.8 (14.4)
VABS		
Composite	69.8 (8.1)	70.6 (9.6)
Communication	69.4 (11.8)	65.0 (6.8)
Daily Living	73.2 (9.2)	72.7 (12.5)
Socialization	70.3 (10.9)	75.1 (13.0)

EIBT indicates early intensive behavioral treatment; Reynell, Reynell Developmental Language Scales; VABS, Vineland Adaptive Behavior Scales; PDDNOS, Pervasive Disorder, Disorder Not Otherwise Specified.
*Significant difference between EIBT and comparison group ($p < .05$).

To examine the clinical significance of the results, we ascertained the number of participants in each group who achieved scores in the average range at follow-up on each measure. We also sought to identify pretreatment measures that were associated with later scores in the average range. Therefore, for the EIBT group, we conducted *t*-tests to compare pretreatment scores of participants who scored in the average range across all measures to pretreatment scores of the remaining participants.

RESULTS

Pretreatment

Table 1 summarizes the demographics and pretreatment scores of the early intensive behavioral treatment (EIBT) and comparison groups. The gender make-up mirrors the 4:1 male to female ratio in Autistic Spectrum Disorder (ASD).[31] Twenty of 21 EIBT children (95%) and 15 of 21 comparison children (71%) were diagnosed with Autistic Disorder. This difference was statistically significant, $t(40) = 2.13$, $p < .05$. The remaining children were classified with Pervasive Disorder, Disorder Not Otherwise Specified (PDDNOS). Age of diagnosis was 20 to 41 months, with the EIBT group averaging 3 months younger than the comparison group (a difference that was not statistically significant). Also, as shown in Table 1, although not a requirement for participation in the EIBT program, parents had significantly more education and were significantly more likely to be married than comparison parents. IQ, Merrill-Palmer, Reynell, and Vineland scores did not differ significantly between groups; scores in both groups indicated developmental delays comparable to other samples of children with ASD.[30]

Outcome

Table 2 presents the results of the analysis of covariance (ANCOVA) tests for each outcome measure, whereas Figure 1 presents the means and 95% confidence intervals for each group at intake, Year 1, Year 2, and Year 3. As shown in Table 2, there was a significant difference between groups on the primary outcome measure, IQ. Figure 1 reveals that the mean IQ in the EIBT group increased 25 points, from 62 at pretreatment to 87 at Year 3. Interestingly, the mean IQ in the comparison group also increased, from 59 at pretreatment to 73 at Year 3.

The EIBT and comparison groups did not differ significantly on the Merrill-Palmer. Both groups displayed a mean increase of 13 points from intake to Year 3 on this measure. Figure 1 suggests that the groups may not have been matched at pretreatment, as the mean for the EIBT was 82 compared to 73 in the comparison group. A post hoc analysis indicated that this difference approached statistical significance, $t(35) = 1.87$, $p = .07$. Also, the assumption of compound symmetry was questionable for this variable, with Hyunh-Feldt $\epsilon = .85$; because the

Table 2. Analyses of Covariance Testing for Differences Between the EIBT and Comparison Groups on Outcome Measures

	N		Sums of Squares (Between Subjects)				
Measure	E	C	Group	Covariate	Error	MSE	F
IQ	21	19	4,229.91	12,046.14	30,042.41	811.96	5.21*
Merrill-Palmer	21	16	246.27	15,613.74	20,657.91	626.00	ns
Reynell							
Language Comprehension	21	19	3,750.25	17,523.60	36,312.08	981.41	3.82**
Expressive Language	20	19	3,413.57	13,590.90	52,495.66	1,458.21	ns
VABS							
Composite	20	20	3,897.52	1,589.31	18,385.69	496.91	7.84***
Communication	20	20	3,937.71	2,937.53	25,994.10	722.06	5.45*
Daily Living	20	20	2,527.14	2,229.25	14,207.49	394.65	6.40*
Socialization	20	20	1,857.84	21.66	16,130.41	460.87	4.03**

N indicates number of participants included in the analysis; E, EIBT group; C, comparison group; ns, not statistically significant; MSE, mean square of errors (between subjects); Reynell, Reynell Developmental Language Scales; VABS, Vineland Adaptive Behavior Scales.
* $p < .05$; ** $p < .10$; *** $p < .01$.

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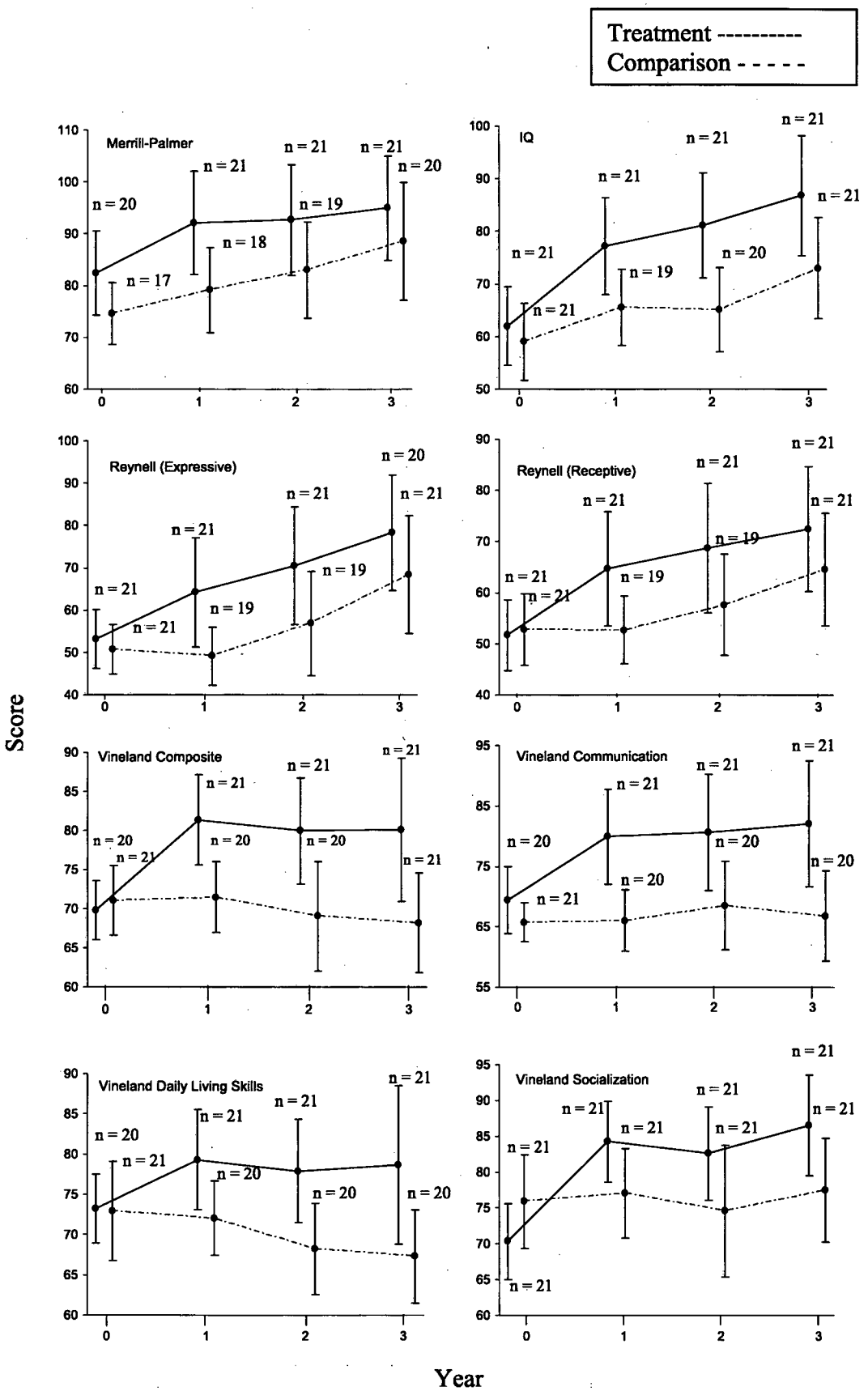

FIGURE 1. Mean and 95% confidence interval for pretreatment (Year 0) and follow-up (Years 1–3).

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Table 3. Number of Children in the Average Range on each Outcome Measure for the EIBT Group (n = 21) and Comparison Group (n = 21)

Measure	EIBT	Comparison	*p*
IQ	12	7	ns
Language Comprehension[a]	8	4	ns
Expressive Language[a]	9	6	ns
VABS Composite[b]	8	3	.10
School Placement	6	0	.001

[a]Reynell Developmental Language Scales.
[b]Vineland Adaptive Behavior Scales.

ANCOVA did not approach statistical significance, alternate analyses were not attempted.

There was a trend toward a significant difference in Reynell Language Comprehension (p = .06). The mean score in the EIBT group increased 20 points, from 52 at pretreatment to 72 at Year 3; the mean score in the comparison group increased 9 points, from 53 at pretreatment to 62 at Year 3. The EIBT group also had a larger increase from pretreatment to Year 3 in Reynell Expressive Language (53–78, compared to 51–66), but this difference was not statistically significant (p = .13). The failure to find a significant difference may indicate that EIBT did not have a meaningful effect on expressive language, or it may simply reflect low statistical power to detect an effect.

The EIBT and comparison groups differed significantly in the Vineland Adaptive Behavior Scales Composite. Consistent with this finding, the EIBT group demonstrated a mean increase of 9 points compared to a 4-point decline in the comparison group, as shown in Figure 1. Inasmuch as a difference was observed in the Composite, individual scales were also analyzed. Significant differences between groups were found in Communication and Daily Living Skills, and a trend was found for Socialization (p = .05). Figure 1 indicates that the changes in scores from pretreatment to Year 3 for each scale were similar to the change in Composite scores. These findings support the inference that the EIBT group had more advanced adaptive behavior skills than the comparison group at the time of the outcome assessments.

An analysis of classroom placement at year 3, between the 2 groups, revealed that 17 of the 21 EIBT children and 1 of the 21 comparison children were included into regular education classroom settings. Of the 17 EIBT children, 6 were fully included without assistance, 4 were fading the shadow tutor, and 7 required full shadows.

When mother' education, father's education, or diagnosis was added as a covariate to the ANCOVA model, ANCOVA was unaltered, except in one instance: With the father's education as a covariate, the difference between groups in IQ was not statistically significant (p = .11). It is unclear whether this finding indicates that father's education was a confound or reflects the limited statistical power for the analysis. When mother's education, father's education, and diagnosis were all added as covariates to the ANCOVA model, IQ, Reynell Language Comprehension, and Vineland Composite continued to show a trend toward significance (p = .09 for all 3 outcome measures). In sum, the possibility that father's education was a confound in the analysis of IQ cannot be ruled out, but the remaining analyses indicated that reliable differences in outcome between groups remained after statistically controlling for inequalities at pretreatment.

None of the analyses for group × time interactions were statistically significant. Thus, we did not confirm our hypothesis that the EIBT group would have increasing scores from Year 1 to Year 2 to Year 3, whereas scores in the comparison group would be stable. On the contrary, Figures 1 and 2 illustrates that although the EIBT group appeared to make larger increases than the comparison group from pretreatment to Year 1, both groups exhibited stable scores from Year 1 to Year 3 in IQ, Merrrill-Palmer, and Vineland. Both groups may have exhibited similar increases in scores in Reynell Language Comprehension and Expressive Language from Year 1 to Year 3.

As shown in Table 3, more EIBT participants than comparison participants achieved follow-up scores in the average range for each measure, although this difference was significant only for school placement and showed a trend toward significance for the Vineland. Ten EIBT participants scored in the average range on all measures (6 of these 10 also were included in regular education without assistance, whereas the remaining 4 continued to receive shadowing in the regular education classroom). t-tests did not reveal any significant differences in pretreatment test scores for these 10 participants compared to the remaining 11 participants. For example, these 10 children had a mean pretreatment IQ of 66.6 (SD = 12.4) compared to 57.7 (SD = 19.0) for the remaining 11 children, $t(19)$ = 1.28, ns. However, pretreatment Reynell Language Comprehension scores showed a trend toward a difference, with a pretreatment mean of 58.1 for the participants with the most favorable outcome compared to 45.9 for the other participants, $t(19)$ = 1.98, p = .06.

DISCUSSION

The present study suggests that the UCLA/Lovaas Model of early intensive behavioral treatment (EIBT) can be implemented in a nonuniversity community-based setting. On the primary outcome measure of IQ, the EIBT group showed a gain of 25 points, which was statistically significant compared to the gain of 14 points in the comparison group. Similar effects were found on measures of adaptive behavior. Although language comprehension showed a trend towards significance, expressive language and nonverbal cognitive skill revealed no difference between groups. The increases in test scores are similar to those reported in Lovaas' original EIBT study[2,3] and in some recent investigations.[15,16] However, the difference between the EIBT group and the comparison group on outcome measures was smaller than that in other studies, as the comparison group also made gains.

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An important limitation of the study is that, because treatment was funded by public agencies that were required to offer free and appropriate services, groups could not be randomly assigned, and a quasi-experimental design was used, with parents choosing which group their child entered. Although pretreatment test scores did not differ significantly between groups, other pretreatment variables did differ. The EIBT group had more children with autism and fewer with Pervasive Disorder, Disorder Not Otherwise Specified (PDDNOS) than did the comparison group. To the extent that PDDNOS is a milder diagnosis that may have a more favorable prognosis than autism,[7] this difference may have favored the comparison group. However, the EIBT group also may have had an advantage in that it had more 2-parent families and better educated families than did the comparison group. These family variables have not been associated with outcome in previous studies,[2,7] but they might have encouraged families to select EIBT over other interventions in the present study, even though all interventions were provided at no cost to families. In addition, these variables might have given the EIBT group an advantage by making it easier for families to participate in treatment sessions and facilitate generalization of skills outside of treatment. After statistically controlling for family variables, outcome analyses continued to show improved outcomes in the EIBT group relative to the comparison group. Nevertheless, statistical controls are not a satisfactory solution for preexisting group differences, especially given the relatively small sample size in the present study. A design with random assignment would have strengthened the study and allowed for more clearcut conclusions about whether EIBT is effective or not.

Further limitations pertain to the assessment protocol in the study. As previously noted, the comparison group received such diverse interventions that a measure of treatment fidelity could not be applied. Also, outside evaluators were employed by Valley Mountain Regional Center (VMRC) for pretreatment and follow-up assessments of participants. The referrals to the evaluators did not include information on group assignment or treatment history. However, to ensure that evaluators remained unaware of this information and to allow for checks on the reliability of test administration and scoring, evaluators who were employed by the study and conducted assessments at a research site (rather than in their clinical offices) might have been preferable. Another limitation is that the assessment protocol tested developmental level more rigorously than did the features of Autistic Spectrum Disorder (ASD). The inclusion of the Autism Diagnostic Observation Schedule (ADOS),[33] in addition to the Autism Diagnostic Interview–Revised (ADI-R) and clinical diagnosis, would have increased confidence in the initial diagnosis. Including a measure such as the ADOS in follow-up assessments would have indicated whether or not children continued to display behaviors indicative of ASD. Additional measures such as the Theory of Mind Test[34] also would help address this issue; Central Valley Autism Project (CVAP) is currently involved in a study to translate this test into English and standardize it in the United States. Without such measures, the present study cannot address one of the most controversial issues raised by previous EIBT research–whether some children become indistinguishable from typically developing peers[6] or whether they continue to display characteristics of ASD. An additional follow-up evaluation of study participants with the ADOS and Theory of Mind (TOM) Test is planned to fill in some of these gaps.

In this study, advanced behaviors associated with friendship initiation and maintenance, social skills, understanding of social meaning, and response to social behaviors were identified and treated, using the same discrete trial methodology as other behaviors, which consequently increased the duration of treatment beyond 3 years for many participants (usually for 2 additional years). Although this expansion of the treatment protocol reflects the contemporary view that the defining feature of ASD is an impairment in social reciprocity, it raises the question of whether the present study truly was a replication of the UCLA model. The treatment site met all of Lovaas' criteria for replication, and the first 2 years of intervention followed the model as it has been previously described.[2] The third year also followed the model, with the addition of the training in advanced social skills. Thus, results from Years 1 and 2 are directly comparable to those of previous studies, and results from Year 3 also reflect mostly the same interventions. Research on the specific effects of the additional social skills training is warranted, as it is acknowledged that such training was not included in previous studies. Also, although discrete trial training is a common approach to teaching social skills and has some empirical support,[35,36] teaching methodologies other than discrete trials (e.g. video modeling, incidental teaching) also have empirical support and may have advantages such as generalizing more quickly to settings outside of treatment;[22] thus, the question of how best to teach such skills may be another area for research.

Interestingly, although the EIBT protocol lasted for 3 years and, in some cases, was continued beyond that time, the nonsignificant group × time interactions in the statistical analyses indicates that the EIBT group did not show reliable IQ increases relative to the comparison group after Year 1. A possible explanation is that most gains occurred in the first year of intervention. Alternatively, however, it is also possible that gains took place later in treatment but that the study measures were not sensitive to them.

Potential evidence for the latter view comes from the findings on classroom placement. A striking result was that, despite IQ gains in the comparison group, all participants but 1 remained primarily in a special education classroom setting, whereas most EIBT participants were included in regular education at least part of the day. Classroom placement is a controversial outcome measure because of concerns that it may reflect factors such as parent advocacy and school policy rather than the child's functioning.[12] However, the measure also may be an index of real-world academic and social competence.[37] If so, the differences between groups on this measure may be

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attributable at least in part to the social skills training that EIBT participants received. In addition, it may suggest a need for a high number of treatment hours. Dismantling studies might help address these possibilities.

The initial collaborative funding efforts by VMRC and Special Education Local Planning Areas (SELPAs) resulted in a sustainable treatment environment. Stable funding, effective guidelines and policies, and positive communication and working relationships were primary contributory variables to the feasibility of this study. Thus, this collaboration may be a useful model for other regions to employ. Other clinical strengths of this study included rigorous treatment quality control criteria, stringent staff training and evaluation standards, multiple internships at UCLA by supervising clinicians, precise programming for each individual child, advanced completion programming and skilled generalization training, yearly follow-ups by an independent evaluator using multiple outcome measures, and a centralized process and standardized protocol for diagnosing children and informing families of EIBT and other intervention options available to them. Without such standards, outcomes may differ. Nevertheless, given the methodological limitations of the present research, there is a continued need for rigorous outcome studies comparing EIBT to control conditions or other interventions.

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Comparison of behavior analytic and eclectic early interventions for young children with autism after three years

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ABSTRACT

In a previous study, we compared the effects of just over one year of intensive behavior analytic intervention (IBT) provided to 29 young children diagnosed with autism with two eclectic (i.e., mixed-method) interventions (Howard, Sparkman, Cohen, Green, & Stanislaw, 2005). One eclectic intervention (autism programming; AP) was designed specifically for children with autism and was intensive in that it was delivered for an average of 25–30 h per week ($n = 16$). The other eclectic intervention (generic programming; GP) was delivered to 16 children with a variety of diagnoses and needs for an average of 15–17 h per week. This paper reports outcomes for children in all three groups after two additional years of intervention. With few exceptions, the benefits of IBT documented in our first study were sustained throughout Years 2 and 3. At their final assessment, children who received IBT were more than twice as likely to score in the normal range on measures of cognitive, language, and adaptive functioning than were children who received either form of eclectic intervention. Significantly more children in the IBT group than in the other two groups had IQ, language, and adaptive behavior test scores that increased by at least one standard deviation from intake to final assessment. Although the largest improvements for children in the IBT group generally occurred during Year 1, many children in that group whose scores were below the normal range after the first year of intervention attained scores in the normal range of functioning with one or two years of additional intervention. In contrast, children in the two eclectic treatment groups were unlikely to attain scores in the normal range after the first year of intervention, and many of those who had scores in the normal range in the first year fell out of the normal range in subsequent years. There were no consistent differences in outcomes at Years 2 and 3 between the two groups who received eclectic interventions. These results provide further evidence that intensive behavior analytic intervention delivered at an early age is more likely to produce substantial improvements in young children with autism than common eclectic interventions, even when the latter are intensive.
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1. Introduction

The past two decades have seen increased interest in early intervention for children diagnosed with autism spectrum disorder (hereafter, "autism") among researchers, policymakers, funding sources, and consumers. Following publication of the Lovaas study in 1987, a number of researchers began evaluating the effects of intensive, comprehensive early intervention using applied behavior analysis (ABA) methods. Various ABA models for treating children with autism have been proposed, but many behavior analytic researchers agree that genuine early intensive ABA treatment programs have certain key features in common: (a) individualized, comprehensive intervention that addresses all skill domains; (b) use of multiple behavior analytic procedures (not just discrete-trial procedures or "naturalistic" techniques) to build new repertoires and reduce behaviors that interfere with skill acquisition and effective functioning; (c) direction and oversight by one or more professionals with advanced training in ABA and experience with young children with autism; (d) reliance on typical developmental sequences to guide selection of treatment goals; (e) parents and other individuals trained by behavior analysts to serve as active co-therapists; (f) intervention that is initially one-to-one, transitioning gradually to a group format as warranted; (g) intervention that often begins in homes or specialized treatment centers but is also delivered in other environments, with gradual, systematic transitions to regular schools when children develop the skills required to learn in those settings; (h) planned, structured intervention provided for a minimum of 20–30 h per week with additional hours of informal intervention provided throughout most other waking hours, year round; (i) intensive intervention beginning in the preschool years and continuing for at least 2 years (Eldevik et al., 2010; Green, Brennan, & Fein, 2002).

Substantial research has documented the effectiveness of treatments that incorporate all of the foregoing features. Eight prospective studies used comparison- or control-group designs to evaluate some variation of the Lovaas/UCLA model of early intensive ABA intervention for children with autism (Cohen, Amerine-Dickens, & Smith, 2006; Eikeseth, Smith, Jahr, & Eldevik, 2002; Eikeseth, Smith, Jahr, & Eldevik, 2007; Eldevik, Hastings, Jahr, & Hughes, 2012; Eldevik, Eikeseth, Jahr, & Smith, 2006; Lovaas, 1987; Sallows & Graupner, 2005; Smith, Groen, & Wynn, 2000). In another three studies, the ABA intervention was designed and overseen by professional behavior analysts not affiliated with Lovaas, and the ABA intervention differed somewhat from the Lovaas model (Howard, Sparkman, Cohen, Green, & Stanislaw, 2005; Remington et al., 2007; Zachor, Ben-Itzchak, Rabinovitch, & Lahat, 2007). Outcomes from those 11 studies varied and some children had larger improvements than others. In the large majority of cases, however, the mean change scores achieved by children receiving intensive ABA treatment exceeded the mean change scores for similar children in control or comparison groups who received less intensive ABA treatment, intensive or non-intensive treatment using a mixture of methods or therapies ("eclectic" treatment), or "treatment as usual" (i.e., standard early intervention or special education services). Additionally, compared to children who received other types of treatment, children who received early intensive ABA treatment were more likely to achieve post-treatment scores on one or more standardized measures that were in the normal range, and were more often placed in regular classrooms (for reviews and analyses, see Eikeseth, 2009; Eldevik et al., 2009, 2010; Green, 2011; National Autism Center, 2009; Reichow & Wolery, 2009; Rogers & Vismara, 2008).

Despite the evidence from multiple studies and meta-analyses favoring intensive ABA treatment for autism over other models of early intervention, a number of questions persist. One is whether other types of early intervention delivered with comparable intensity and individualization can produce outcomes comparable to ABA. Perhaps the most common alternative early intervention approach involves a mixture of methods drawn from ABA, speech-language pathology, occupational therapy (especially sensory integration techniques), developmental psychology, and autism-specific approaches. That model, which has been characterized as "eclectic" intervention, is widely available in the United States and elsewhere.

At least three studies have compared eclectic and ABA interventions directly. Eikeseth et al. (2002) studied children with autism who entered treatment at ages 4–7 years ($M = 5.5$ years), slightly older than children in most of the other studies of early intensive behavioral intervention. One group ($n = 13$) received Lovaas-model ABA treatment for 28 h per week, while a second group ($n = 12$) received eclectic intervention for 29 h per week. There were no significant differences between the groups when treatment began. Both forms of treatment were delivered in public school classrooms. After 1 year, the ABA treatment group had gained an average of 17 points on IQ test scores, 13 points on tests of language comprehension, 27 points on tests of expressive language, and 11 points on an adaptive behavior scale. The eclectic treatment group had average gains of only 4 points on IQ tests and 1 point on language tests, and no change in adaptive behavior. A follow-up study conducted when those children were 8 years old found that after about 3 years of treatment, the ABA treatment group had gained an average of 25 IQ points and 9–20 points on adaptive behavior scales in comparison to baseline. The eclectic intervention group had a mean gain of only 7 points on IQ tests, and declines of 6–12 points on adaptive behavior assessments (Eikeseth et al., 2007).

A study we published previously involved a comparison of intensive ABA intervention with two different eclectic intervention models (Howard et al., 2005). Twenty-nine preschool children with autism received early intensive behavior analytic intervention (IBT), 16 received intensive eclectic intervention designed for children with autism (designated the autism programming, or AP, group), and an additional 16 received typical non-intensive, eclectic early intervention services (designated the generic programming, or GP, group). All children began intervention prior to 48 months of age and received treatment for an average of 14 months. They were placed in treatment groups on the basis of parental preferences and education team decisions, and evaluated pre-treatment and annually thereafter by professionals who were neither involved in nor employed by any of the treatment programs. The three groups were shown to be similar on key variables when

treatment began. After 14 months of intervention, mean scores on standardized tests of intellectual, communication, and adaptive skills were significantly higher for children in the IBT group than for children in the other two groups. Children in the IBT group had an average standard IQ score of 90, compared to 62 and 69 for children in the AP and GP groups, respectively. Developmental trajectories for most measures accelerated markedly over the 14 months of treatment for children in the IBT group, while the trajectories for children in the other two groups remained flat or declined.

For the present study, we followed children who participated in the 2005 study through an additional 2 years of treatment. We focused on four questions: (a) did Year 1 differences in the cognitive, language, and adaptive behavior scores of children in the three groups persist? (b) Did differences in the developmental trajectories of the three groups at Year 1 change during Years 2 and 3? (c) How many children in each group had standardized test scores in the normal range after 2 or 3 years of treatment? (d) To what extent were outcomes at Year 1 correlated with outcomes at Years 2 and 3?

2. Method

2.1. Participants

The same 61 children who participated in the Howard et al. (2005) study participated in this follow-up. Characteristics of the groups at intake are reported in Howard et al. (2005).[2]

Assessments were conducted 1–3 years after treatment began, but not all skill domains were assessed each year with every child. (See Section 3.1 for number of assessments available for each group at intake and at Years 1–3.) In particular, one child in the GP group and one child in the IBT group did not receive any assessments after the first year of treatment. Nonetheless, scores for all 61 children were retained for the present analyses to permit evaluations of outcomes that were not included in our 2005 publication.

2.2. Treatments

Information about the treatments participants received, school placements, and number of hours and services authorized during Years 2 and 3 was obtained through file review.

2.2.1. Intensive behavior analytic treatment (IBT)

This treatment was designed and delivered by personnel in a California non-public agency that provides ABA services to children with autism. Treatment was directed by the first author, a Board Certified Behavior Analyst-Doctoral® (BCBA-D®) and licensed psychologist, and the fourth author, a licensed speech-language pathologist. Programs were supervised by Board Certified Behavior Analysts® (BCBAs®) and other staff with master's degrees in psychology or special education and some training in ABA. They were supported by staff who were either Board Certified Assistant Behavior Analysts® (BCaBAs®) or who had bachelors degrees, most of whom were enrolled in graduate programs in ABA and related areas. Treatments were delivered to children by behavior technicians working under the supervision of the clinical staff. Behavior technicians began delivering treatment only after they had passed competency-based performance evaluations; thereafter, they were directly observed and received written or oral feedback on their implementation of behavior change protocols from their clinical supervisors an average of once or twice each week.

To varying degrees, all parents helped support treatment outside of formal treatment hours. Parent training initially focused on teaching instruction-following, promoting spontaneous language, re-directing nonfunctional repetitive behavior, managing interfering behaviors, and building skills such as toileting, dressing, and independent play. Parents were also trained to implement behavior analytic procedures that were designed to increase success in activities relevant to health and self-care, such as cooperating with medical and dental care procedures and participating in sports and other community activities.

Treatment was delivered in multiple settings, including homes, treatment centers, community settings, and regular preschool and elementary school classrooms. Treatment protocols utilized the full range of behavior analytic procedures, customized to each child's level of functioning, preferences, family circumstances, and treatment goals. Each child received an average of 35–40 h of treatment per week. The adult:child ratio during Year 1 was 1:1, but during Years 2 and 3 the ratio was gradually decreased (e.g., to 1:2 or 1:3, and then to one adult per small group of children), depending on progress and treatment targets. For further details, see Howard et al. (2005).

[2] While assembling the data for this study, we uncovered several errors in data reported in our 2005 paper. Most were minor (e.g., 1-month errors in the child's age), but the baseline scores of one child in the GP group were reported incorrectly as Year 1 scores, and the Year 1 scores of another child in the GP group were reported as baseline scores. Correcting those errors had virtually no impact on the conclusions that were drawn in the 2005 paper; all 107 of the statistical tests reported as not significant in 2005 remained non-significant, and 40 of the 43 findings that were reported as statistically significant in 2005 remained so. The three exceptions were for group differences that were only marginally significant in the 2005 publication: the difference at intake between the mean nonverbal age equivalents for the AP and GP groups changed from $p = 0.04$ to $p = 0.07$; the difference at follow-up between the mean motor standard scores of the IBT group and the two comparison groups changed from $p = 0.04$ to $p = 0.06$; and, when the mean self-help skills learning rates before and after treatment were compared, the difference between the IBT group and the two comparison groups changed from $p = 0.05$ to $p = 0.07$. Revised tables reporting all corrections are available as supplementary materials.

Data from standardized assessments as well as direct observation and measurement of target behaviors guided decision-making about the distribution of treatment hours across targets and settings. Initial treatment targets focused on foundational repertoires (e.g., attending, imitating vocal and motor sequences, following spoken directions, receptive and expressive labeling, initiating requests, tolerating change, etc.) that are often absent or at low levels in children with autism. Treatment targets during Years 2 and 3 generally focused on advanced cognitive, social, play, self-care, academic, and communication skills (for example, see Fischer, Howard, Sparkman, & Moore, 2009). More complex interactions involving peers and siblings generally occurred during Years 2 and 3 than in Year 1. On average, children in the IBT group had more than 200 goals on their annual individualized education programs (IEPs).

When children acquired the skills necessary to benefit from small group instruction (e.g., learning through observing the behavior of others, language skills close to the level of instruction, low levels of problem behaviors, independent communication of basic needs), they were placed in preschool or kindergarten programs for typically developing children for up to 15 h per week. Each child was accompanied by a behavior technician who used a variety of behavior analytic approaches, including self-management and behavioral contracting procedures, to arrange opportunities to prompt and reinforce behavior targets in order to promote skill acquisition and generalization across settings. The clinical supervisor directing the intervention also provided training and consultation to parents, teachers, and other professionals. Sample behaviors targeted in the regular classrooms included following instructions from classroom teachers and aides, engaging in classroom routines, and interacting with peers. Time spent with typically developing peers was gradually increased based on skill acquisition, maintenance and generalization of skills, and level of problem behaviors. Most children did not enter kindergarten until age 6.

2.2.2. Autism programming (AP) and generic programming (GP)

Brief descriptions of the AP and GP interventions are presented next; for details see Howard et al. (2005). The AP programs were designed specifically for children with autism. Intervention procedures were drawn from the Training and Education of Autistic and Related Communication Handicapped Children (TEACCH) approach, sensory integration therapy, commercially available programs (e.g., the Picture Exchange Communication System; Bondy & Frost, 1994), and some behavior analytic procedures, such as discrete-trial procedures. Children in this group received an average of 25–30 h of intervention per week in public school classrooms with staffing ratios of 1:1 or 1:2. Thus, the AP programs provided eclectic intervention at an intensity that was comparable to IBT.

The GP intervention was delivered in special education classrooms that served children with a variety of diagnoses and educational needs. Programming that was described as "developmentally appropriate" and "language rich" was provided for an average of 15–17 h per week, with slightly more hours as children approached age 6. Adult:child ratios averaged 1:6.

Approximately one third of the children in both the AP and GP treatment groups received "pull out" speech therapy sessions of less than 30 minutes once or twice a week during Years 1 and 2. About 20% of the children in both groups received some services in general education classrooms, which often included such activities as lunch, physical education, or recess. On average, each child in the AP and GP groups had fewer than 15 goals on his/her annual IEP.

2.2.3. Summary

All of the children in the IBT group and the majority in the two eclectic treatment groups had similar placements and programming during Years 2 and 3 as in Year 1. Some children changed from one eclectic treatment to the other after Year 1, while the Year 2 and/or Year 3 intervention was not available for a few AP and GP children. This information is summarized in Fig. 1, which is similar to a Sankey diagram. Sankey diagrams are used in engineering (see Schmidt, 2008, for an overview) and vary the width of each arrow in proportion to the number represented by that arrow. Thus, in the GP treatment group, the arrow leading from GP treatment in Year 1 to AP treatment in Year 2 (which represents $n = 3$ children) is three times as wide as the arrow leading from AP treatment in Year 2 back to GP treatment in Year 3 (representing $n = 1$ child).

2.3. Design

We utilized a between-groups design to compare performances of children in the IBT group with those of children in the two eclectic treatment groups at intake and at followup assessments about 1–3 years later. As reported in Howard et al. (2005), the three groups of children were substantially similar on most key variables at intake. The only significant differences were in mean chronological ages and parents' education, which were controlled for statistically (see Section 2.3.2 below).

2.3.1. Dependent measures

The principal dependent measures in this study were scores on full-scale IQ tests (cognitive skills), measures of language development, and adaptive behavior scales (composite scores as well as communication, self-help, and social skills scores). Scores on nonverbal IQ tests, receptive and expressive communication skills assessments, and motor skills were also analyzed. Since these latter skills were often not measured in Year 3, we report the Year 2 scores if Year 3 scores were not available.

All intake and follow-up assessments were conducted by experienced, qualified examiners who were not involved in treating any children in any of the groups. Assessments were conducted in the child's home, in the examiner's office, at a

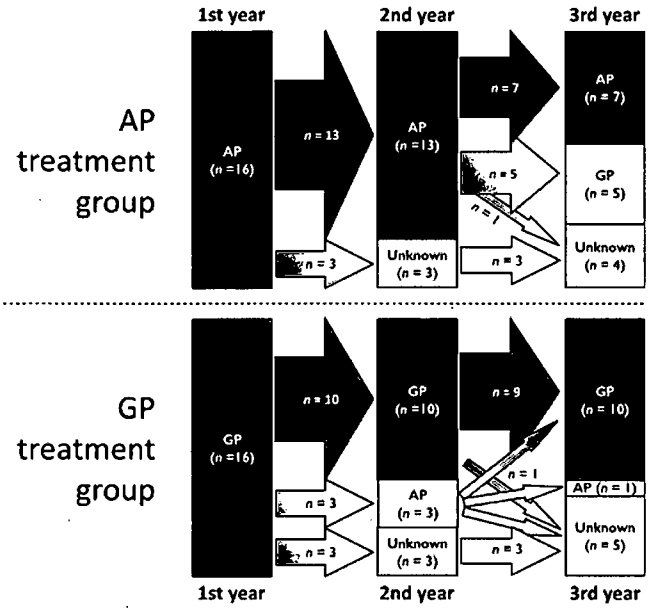

Fig. 1. Movement of children between AP and GP treatments by year. Children in the IBT treatment group had the same treatment all three years. Agency files did not report the type of treatment that was received during Years 2 and 3 for some of the children who initially received the AP or GP treatments.

Table 1
Age (in months) at each assessment, and interval between intake and each subsequent assessment.

Measure	IBT		AP		GP		IBT mean minus AP/GP mean	AP mean minus GP mean
	M	SD	*M*	SD	*M*	SD		
Age at diagnosis	30.07	5.30	39.31	5.52	34.94	5.18	−7.06**	4.38*
Age at intake testing	30.86	5.16	37.44	5.68	34.75	4.80	−5.23**	2.69
Age at Year 1 follow-up	45.24	5.84	50.69	5.64	49.06	5.64	−4.63**	1.63
Age at Year 2 follow-up	57.64	5.30	63.21	5.86	62.23	6.15	−5.10**	0.98
Age at Year 3 follow-up	69.24	5.01	74.33	5.98	73.46	6.10	−4.69**	0.87
Months between intake and Year 1	14.31	2.22	13.25	2.84	14.31	2.44	0.53	−1.06
Months between intake and Year 2	27.05	1.91	25.36	1.82	26.85	3.11	0.97	−1.49
Months between intake and Year 3	37.90	2.98	37.13	2.36	38.46	2.30	0.15	−1.33

* $p < 0.05$.
** $p < 0.01$.

school, or in the settings of local non-profit entities (Regional Centers) that contracted with the state to manage services to persons with developmental disabilities. As reported in Howard et al. (2005), Year 1 testing occurred an average of 14.3 months after intake. Thereafter, parents of all children were contacted annually to determine if they were interested in having their children participate in follow-up assessments. Table 1 shows the mean ages of the groups at each assessment and the intervals between assessments. On average, Year 2 testing occurred 23–34 months after intake ($M = 27.0$ months), and Year 3 assessments occurred 31–43 months after intake ($M = 37.9$ months).

The examiners selected standardized tests of cognitive skills, language skills, and adaptive behavior that were suited to each child's age and level of functioning. Howard et al. (2005) described the instruments used at intake and at Year 1. After Year 1, adaptive behavior was assessed using the Vineland Adaptive Behavior Scales (VABS). Nonverbal IQ was assessed using the Merrill-Palmer Scales of Development (although the Leiter International Performance Scale was used for one child in the IBT group in Year 3). Full-scale IQ was typically assessed after Year 1 using the developmentally appropriate Wechsler instrument, either the Wechsler Preschool and Primary Scale of Intelligence (WPPSI-III or WPPSI-Revised) or the Wechsler Intelligence Scale for Children (WISC-III or WISC-IV). However, one child in the IBT group was administered the Stanford-Binet Intelligence Scale (the 4th edition in Year 2 and the 5th edition in Year 3), and in Year 3 two children in the IBT group were administered the Differential Ability Scales, one IBT child was administered the Slosson Intelligence Test-Revised, and one IBT child was administered the Woodcock-Johnson Tests of Cognitive Abilities III. Receptive and expressive language skills were assessed using a variety of instruments. The most common was the Reynell Developmental Language Scales. Others included the Receptive One-Word Picture Vocabulary Test, the Expressive One-Word Picture Vocabulary Test, the Peabody Picture Vocabulary Test (3rd edition), the Expressive Vocabulary Test, and the Sequenced Inventory of Communication Development-Revised.

Measures for which developmental equivalents were available were converted to developmental quotients (DQs) for analysis using the formula DQ = 100 × developmental equivalent (months)/chronological age (months). When all children

are the same age, there is no statistical difference between analyzing standard scores (SSs), developmental equivalents, and DQs. Unlike the other two measures, however, DQs allow valid comparisons to be made among children who have different chronological ages at the same assessment time, and automatically compensate for different intervals between assessment times (cf. Delmolino, 2006; Lord & Schopler, 1989).

2.3.2. Statistical analyses

As in our original study, statistical analyses focused on comparing the mean scores of children in the IBT group with those of children in the AP and GP groups; comparing the mean scores of children in the AP group with those of children in the GP group was of secondary interest. Accordingly, in this study we used the same multiple regression approach we employed in Howard et al. (2005). One term in the regression equation was a contrast that compared mean scores of the children in the IBT group with mean scores of the children in the AP and GP groups, while a second contrast term (orthogonal to the first) compared the mean scores of children in the AP group with the mean scores of children in the GP group. Both contrasts were tested simultaneously, together with two covariates (chronological age at diagnosis and parents' mean years of education) to control for group differences in the covariates.

Separate multiple regression analyses were performed for each of the four assessment times (intake, Year 1, Year 2, and Year 3). Repeated measures analyses examining all four assessment times at once were precluded because not all children were assessed at every follow-up. Restricting the analyses to children with complete assessment records would have eliminated more than half of the children from some analyses. Trends over the 3-year course of treatment were examined by using paired *t*-tests to compare each child's score at one assessment with his or her score at the following assessment.

For every dependent measure, we also determined whether each child achieved a favorable outcome. This was defined as a DQ or SS within the normal range of functioning (i.e., 85 or higher), or a DQ or SS that was at least 15 points (1 standard deviation) higher at the final assessment (Year 2 or Year 3) than at intake. This definition is logically similar to the reliable change index proposed by Jacobson and Truax (1991) for evaluating the effects of treatments. Chi-square tests were used to determine whether the percentage of children with a favorable outcome differed by treatment group, with a separate analysis conducted for each dependent measure.

3. Results

3.1. Ages and assessment times

The assessment chronology for all three groups is summarized in Table 1. Cells in the first five rows include descriptive statistics on chronological ages at diagnosis and at each assessment time. Data in the bottom three rows describe elapsed time between intake and later assessments. Data in the two rightmost columns represent comparisons of group means; asterisks indicate statistically significant differences. These data indicate that, at diagnosis and every subsequent assessment, the average child in the IBT group was younger than the average child in either comparison group; those differences were statistically significant. There was also a statistically significant difference between the mean ages of the AP and GP children at diagnosis, but not at any of the later assessments.

3.2. Analyses of standard scores and developmental quotients

Table 2 presents descriptive statistics and analyses of assessments of cognitive and adaptive skills for each group. Adaptive behavior scores (communication, social, and self-help skills) are expressed as developmental quotients (DQs), while cognitive skills scores and the composite adaptive behavior measure are expressed as standard scores (SSs). For each of the five measures, cells in the first four rows under each group's column list descriptive statistics from each assessment time; results of statistical comparisons of group means at each assessment time are shown in the two rightmost columns. All comparisons controlled for the child's age at diagnosis and the parents' years of education. Asterisks indicate statistical significance. As shown in the two rightmost columns, all Year 1 and Year 2 mean SSs and DQs were significantly higher for the IBT group than for the two comparison groups combined. There were no other statistically significant between-group differences; the mean scores for the IBT group and the two comparison groups combined did not differ significantly at intake, and the mean scores of the AP and GP groups did not differ significantly from each other at intake or at any of the other assessment times on any measure.

The cells in the bottom three rows for each of the five measures in Table 2 summarize changes in mean scores between successive assessments (intake to Year 1, Year 1 to Year 2, and Year 2 to Year 3). Asterisks denote statistically significant improvements (positive values) or declines (negative values) from one year to the next. The IBT group had statistically significant improvements on all measures from intake to Year 1. The AP group had a statistically significant improvement on the cognitive skills SS from intake to Year 1, and statistically significant declines in the self-help DQ and adaptive behavior composite SS from Year 1 to Year 2. The GP group had a statistically significant improvement on the social skills DQ from Year 1 to Year 2. No other changes were statistically significant.

The cells in the penultimate column in the bottom three rows for each measure in Table 2 represent comparisons of the mean change scores of the IBT group and the AP and GP groups combined. Asterisks indicate statistically significant differences in change scores between intake and Year 1 on all measures in favor of the IBT group. The cells in the rightmost

Table 2
Cognitive and adaptive skills scores at intake and Years 1–3, changes between successive assessments, and differences between groups.

Measure	Assessment	IBT group			AP group			GP group			IBT mean minus AP/GP mean	AP mean minus GP mean
		n	*M*	SD	*n*	*M*	SD	*n*	*M*	SD		
Cognitive (SS)	Intake	28	60.57	17.48	16	53.69	13.50	15	61.00	15.27	3.35	−7.31
	Year 1	26	89.88	20.87	16	62.13	19.63	16	69.13	15.13	24.26**	−7.00
	Year 2	22	86.59	20.47	13	59.38	13.38	13	66.08	17.35	23.86**	−6.69
	Year 3	21	89.43	23.99	14	64.43	24.84	13	71.77	19.45	21.47	−7.34
	Intake vs Year 1	25	27.44**	14.18	16	8.44*	15.04	15	8.27	17.20	19.09**	0.17
	Year 1 vs Year 2	20	−2.05	6.89	13	1.77	6.69	13	−1.69	6.79	−2.09	3.46
	Year 2 vs Year 3	17	2.94	9.06	11	1.09	8.62	11	6.55	13.45	−0.88	−5.45
Communication (DQ)	Intake	29	49.23	14.77	16	42.95	15.01	15	47.22	14.39	4.22	−4.27
	Year 1	26	76.47	22.48	16	46.52	21.63	16	52.38	22.34	27.02**	−5.86
	Year 2	22	73.46	28.93	13	45.94	20.50	13	51.26	22.56	24.86*	−5.33
	Year 3	19	72.84	29.46	14	49.40	29.36	13	57.68	22.74	19.45	−8.29
	Intake vs Year 1	26	26.23**	21.27	16	3.57	17.96	15	4.82	21.34	22.05**	−1.25
	Year 1 vs Year 2	20	−0.02	21.08	13	2.22	18.46	13	4.33	15.46	−3.29	-2.11
	Year 2 vs Year 3	16	2.57	21.79	11	4.68	14.68	11	5.68	10.67	−2.61	−1.00
Self-help (DQ)	Intake	29	60.65	16.59	16	56.63	15.54	15	60.30	17.13	2.24	−3.67
	Year 1	26	70.19	16.39	16	62.17	16.49	16	56.39	10.29	10.91*	5.78
	Year 2	22	69.35	16.99	13	52.13	16.46	13	60.68	16.39	12.95**	−8.55
	Year 3	19	67.13	15.78	14	56.11	19.25	13	61.92	13.67	8.22	−5.80
	Intake vs Year 1	26	9.86*	21.24	16	5.54	20.52	15	−3.41	17.93	8.65*	8.95
	Year 1 vs Year 2	20	0.68	17.85	13	−8.53*	14.07	13	5.46	15.26	2.22	−13.99*
	Year 2 vs Year 3	16	−2.66	8.33	11	3.31	18.15	11	1.71	17.01	−5.17	1.60
Social (DQ)	Intake	28	54.43	18.00	16	58.05	23.15	15	56.92	15.50	−3.07	1.13
	Year 1	26	69.47	19.05	16	58.44	28.89	16	49.55	20.21	15.47*	8.89
	Year 2	22	80.66	26.60	13	48.68	25.52	13	61.16	30.09	25.75**	−12.48
	Year 3	19	79.33	27.48	14	52.60	25.56	13	67.85	22.40	19.39	−15.25
	Intake vs Year 1	25	15.21**	22.99	16	0.39	23.86	15	−7.47	23.09	18.62*	7.86
	Year 1 vs Year 2	20	11.85**	17.14	13	−7.93	17.77	13	15.68*	20.45	7.98	−23.61**
	Year 2 vs Year 3[a]	16	3.37	14.81	11	1.57	17.41	11	7.27	19.86	−1.05	−5.70
Composite (SS)	Intake	26	72.00	7.73	16	69.81	10.48	13	69.69	8.54	2.24	0.12
	Year 1	26	81.15	10.95	16	69.25	12.91	16	67.63	10.45	12.72**	1.63
	Year 2	22	79.14	12.06	13	61.08	10.14	13	69.77	12.74	13.71**	−8.69
	Year 3	20	76.00	15.94	14	58.07	15.80	13	65.85	12.23	14.19	−7.77
	Intake vs Year 1	24	8.88**	10.94	16	−0.56	12.04	13	−1.31	11.24	9.77*	0.75
	Year 1 vs Year 2	20	−0.60	10.75	13	−6.54*	8.41	13	4.54	8.29	0.40	−11.08**
	Year 2 vs Year 3	16	−4.31	8.25	11	−4.09	11.23	11	−3.45	7.41	−0.54	−0.64

[a] Age at diagnosis is a significant covariate ($p < 0.05$).
* $p < 0.05$.
** $p < 0.01$.

column in the bottom three rows for each measure represent comparisons of the mean change scores between the AP and GP groups. Statistically significant differences were seen in the changes in self-help DQ, social DQ, and adaptive behavior composite SS from Year 1 to Year 2; in each case, the mean score declined for the AP group but increased for the GP group.

Table 3, which is formatted similarly to Table 2, presents nonverbal IQ, language, and motor skills DQs by group. Those skills were not assessed consistently after Year 1; some children were reassessed only after 2 years of treatment, while others were reassessed only after 3 years of treatment. Accordingly, Table 3 shows statistics for only three points in time: at intake; one year after intake; and either three years after intake or – if no assessment was made at Year 3 – two years after intake. For the IBT group, mean DQs on all measures except motor skills (which were in the normal range at intake) increased significantly from intake to Year 1. Expressive language skills also improved significantly from Year 1 to Year 2/3, while the motor skills mean DQ showed a decline over that same interval. For the AP group, the only statistically significant change was a decline in the mean motor skills DQ from Year 1 to Year 2/3. Over that same interval the GP group's mean expressive language DQ increased significantly, but no other statistically significant changes were found for that group. The penultimate right-hand column of Table 3 again shows several statistically significant differences in change scores favoring the IBT group over the two combined eclectic groups. As indicated in the final column, the only statistically significant difference between the AP and GP groups was on the motor skills DQ assessment at Year 2/3, with children in the AP group scoring lower, on average, than children in the GP group.

The group mean data described in Table 2 are represented graphically in Figs. 2–6, which also show individual scores and the numbers of children in each group whose scores were in the normal range (85 and above) on each measure at each assessment. Data from assessments conducted at intake and Year 1 mirror those reported in our previous paper (Howard et al., 2005): Mean scores on all measures for all three groups were comparable at intake, and the IBT group had significantly higher mean scores one year later than did the AP and GP groups. As discussed above, change scores indicated that, on average, children in the IBT group improved more than children in the other two groups after one year of treatment.

Table 3
Nonverbal IQ, language, and motor skills scores at intake, Year 1, and Year 2 or 3, changes between assessments, and differences between groups.

Measure	Assessment	IBT treatment group			AP treatment group			GP treatment group			IBT mean minus AP/GP mean	AP mean minus GP mean
		n	*M*	SD	*n*	*M*	SD	*n*	*M*	SD		
Non-verbal (DQ)	Intake	20	80.44	12.06	16	67.00	17.13	11	76.65	13.37	9.51	−9.65
	Year 1[b]	24	101.04	18.27	16	73.60	24.79	15	81.08	18.72	23.82**	−7.47
	Year 2/3	24	98.05	17.92	15	69.33	22.08	14	82.20	21.74	22.50**	−12.87
	Intake vs Year 1	20	20.31**	14.97	16	6.61	18.56	11	2.42	13.42	15.41**	4.19
	Year 1 vs Year 2/3	21	−2.20	8.65	15	−2.10	13.63	13	2.78	11.49	−2.36	−4.87
Receptive (DQ)	Intake[b]	29	48.79	20.87	16	45.44	15.23	15	47.29	13.59	2.45	−1.85
	Year 1	26	71.23	21.97	15	51.39	22.44	14	51.95	19.46	19.57*	−0.55
	Year 2/3	25	74.46	25.08	15	49.53	24.61	13	60.31	18.75	19.93*	−10.78
	Intake vs Year 1	26	22.53**	18.31	15	5.27	13.12	13	2.77	11.96	18.42**	2.50
	Year 1 vs Year 2/3	24	2.18	12.39	14	−0.27	20.81	12	4.39	10.49	0.31	−4.66
Expressive (DQ)	Intake	29	49.73	16.34	16	43.90	5.80	15	50.20	12.16	2.78	−6.30
	Year 1	26	69.24	23.20	15	47.31	24.42	14	48.08	14.35	21.56*	−0.77
	Year 2/3	26	83.25	29.88	15	47.98	27.25	13	62.07	23.83	28.73*	−14.10
	Intake vs Year 1	26	20.46**	22.36	15	3.42	22.68	13	−2.84	12.29	19.95*	6.26
	Year 1 vs Year 2/3	24	10.40*	17.11	14	1.51	16.47	12	12.34*	17.75	3.90	−10.82
Motor (DQ)	Intake	28	94.65	17.50	16	89.55	13.09	14	86.96	13.34	6.31	2.59
	Year 1	26	97.30	14.74	16	85.08	12.24	16	85.62	13.62	11.95*	−0.54
	Year 2/3	25	90.17	12.64	12	74.00	13.24	14	86.31	15.83	9.54	−12.30*
	Intake vs Year 1	25	0.63	18.23	16	−4.46	12.82	14	0.83	18.18	2.63	−5.29
	Year 1 vs Year 2/3	23	−8.44*	18.05	12	−9.82*	13.54	14	1.97	20.57	−4.97	−11.78

[b] Mean parental years of education is a significant covariate ($p < 0.05$).
* $p < 0.05$.
** $p < 0.01$.

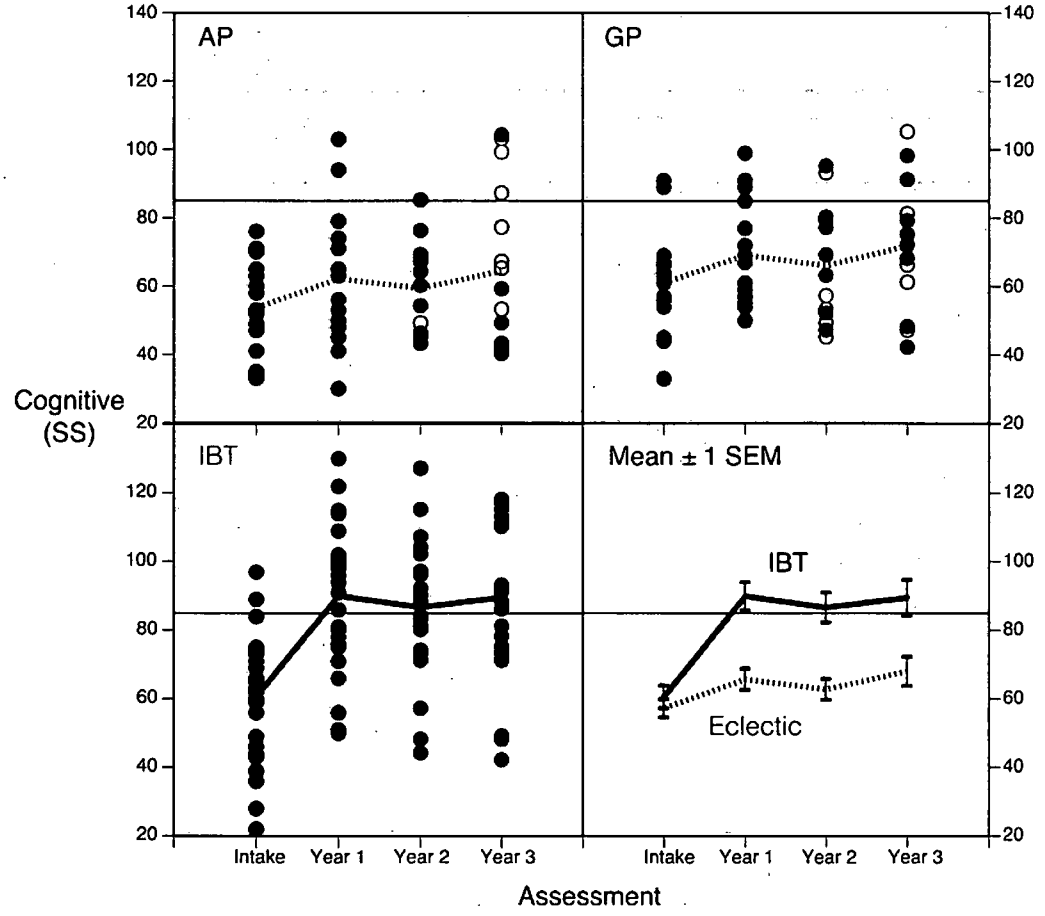

Fig. 2. Cognitive SSs at intake and 1–3 years later. Each dot represents the score for an individual child at that assessment time. Black dots indicate children who received their original treatment at the time of testing; white dots indicate children in the AP group who received GP treatment in the year preceding assessment, or children in the GP group who received AP treatment prior to assessment. Gray dots indicate children whose treatment prior to assessment was not recorded. Scores in the gray region of each panel are in the normal range (85 or higher). The lines in each panel connect the group mean scores at each assessment. The vertical bars in the lower right panel extend ±1 standard error around each group mean.

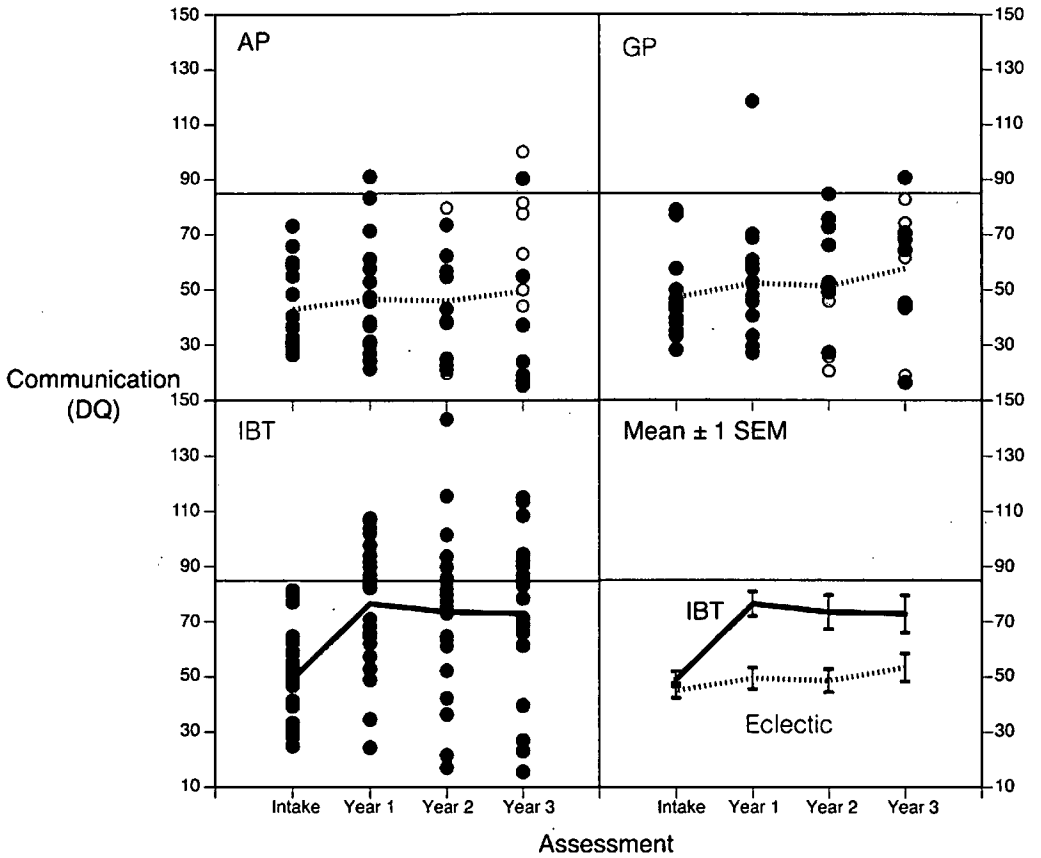

Fig. 3. Communication DQs at intake and 1–3 years later. See Fig. 2 caption for details.

After the first year of treatment, the sharply accelerated trajectory for the IBT group relative to the two other groups did not continue for any measure except the social skills DQ, which increased again from Year 1 to Year 2 before leveling off (Fig. 5). The mean cognitive skills SS for the IBT group remained stable from Year 1 to Year 3 (Fig. 2), while the mean communication skills DQ, self-help skills DQ, and adaptive skills composite SS declined slightly (Figs. 3, 4 and 6, respectively). The mean scores for the GP and AP groups either increased slightly or declined from Year 1 to Year 3 on all measures except social skills DQs, which increased for the GP group (Fig. 5).

In general, the gaps that emerged between the means of the IBT group and the other two groups after one year of treatment remained fairly constant or expanded in favor of the IBT group in Years 2 and 3 (see the lower right-hand panels of Figs. 2–6). Although the mean scores for the children in the IBT group were higher than those of the children in the eclectic treatment group three years after intake, those differences were not statistically significant (see Tables 2 and 3). With one possible exception, that was not because children in the IBT group regressed or because those in the AP and GP groups improved substantially; rather, it was because some children lacked 3-year followup assessments, reducing the Year 3 sample sizes and precluding the detection of statistically significant differences among the group mean scores. The exception was the mean motor skills DQ for the IBT group, which declined slightly from intake to Year 2/3 but remained in the normal range. The AP group's mean motor skills DQs also declined over the course of treatment; that decline was statistically significant and resulted in a Year 3 mean that was below normal (see Table 3).

Given the large improvements in the IBT group after one year of treatment, it may seem surprising that continued treatment did not produce further large gains on most measures; rather, most mean scores remained stable or declined slightly in Years 2 and 3. That finding should be interpreted with caution, however, and in relation to the results for the other two groups. For example, the mean cognitive skills SS for the IBT group was in the normal range after one year of treatment, so further large increases were unlikely. The mean adaptive skills composite SS for the IBT group fell slightly over the course of treatment, but the means for the two other groups fell even more. One plausible explanation for the apparent declines in the mean VABS composite scores is that the programming for these young children emphasized skills other than those assessed by the VABS.

3.3. *Analyses of outcomes by type of treatment*

Additional analyses were conducted to ascertain the proportions of children in each group who achieved clinically important outcomes by the end of treatment, and the likelihood that each type of treatment would produce such outcomes.

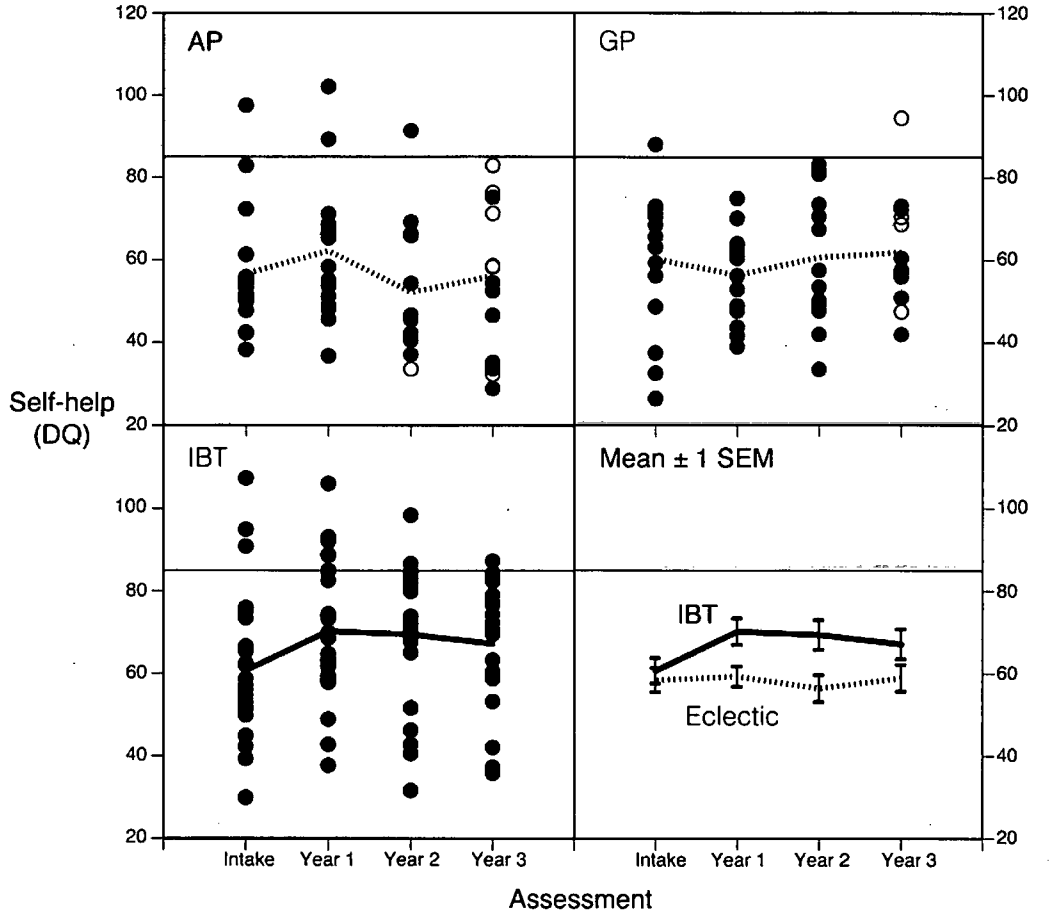

Fig. 4. Self-help DQs at intake and 1–3 years later. See Fig. 2 caption for details.

Table 4 shows the percentage of children in each group who had final (Year 2 or 3) scores in the normal range (i.e., ≥85; third column), final scores that were at least one standard deviation (≥15 points) higher than their intake scores (fifth column), and either of those favorable outcomes (penultimate column). Columns immediately to the right of each of those show odds ratios and probability ratios. To illustrate the odds ratio statistic, consider the data in the fourth column for the cognitive SS. For the IBT group, 61% had a final score ≥85 on that measure; the odds of achieving that favorable outcome were 0.607/(1 − 0.607) = 1.545. For the children in the AP and GP groups combined, 25% had final scores ≥85; the odds of this outcome were 0.250/(1 − 0.250) = 0.333. The ratio of those two odds is 1.545/0.333 = 4.64. This odds ratio of 4.64 is greater than the "neutral" value of 1, indicating that a favorable outcome on the cognitive SS was attained more often by children in the IBT group than by children in the two other groups combined. A likelihood ratio test, which is similar to a chi-square test, confirmed this difference as statistically significant. An odds ratio of 4.64, however, does not signify that children in the IBT group were 4.64 times more likely to have a favorable outcome than children in the AP and GP groups. Such an estimate is better provided by the probability ratio, which is shown in parentheses below each odds ratio in Table 4. The probability ratio for the cognitive SS example is 0.607 (the probability of a final score ≥85 for children in the IBT group) divided by 0.250 (the probability of a final score ≥85 for children in the AP and GP groups combined) = 2.43, indicating that children in the IBT group were 2.43 times more likely to achieve final cognitive SSs in the normal range than were children in the other two groups combined. Probability ratios are more readily interpreted than odds ratios, but statistical tests for group differences utilize odds ratios.

Table 4 shows that the overwhelming majority of the odds ratios and probability ratios favored IBT, indicating that clinically important outcomes as defined here were far more likely to be attained by children who received IBT than by children who received either of the other two treatments. The only exception was that final motor DQ scores were unlikely to be at least one standard deviation above the intake scores. As noted previously, that was likely due to a ceiling effect, in that the mean motor DQ for the IBT group was in the normal range at intake and stayed there over the course of treatment. Double asterisks in Table 4 show that the advantage for IBT children was more likely to be statistically significant when a favorable outcome was defined as a final score ≥85 than when it was defined as an increase of at least 15 points over intake.

Statistically significant differences between the AP and GP groups emerged only for an increase of 15 points or more over intake for social, motor, and adaptive skills composite scores. For those three measures, the odds of a favorable outcome were higher for the GP group than for the AP group. For the cognitive, receptive, and self-help measures, children in the AP group

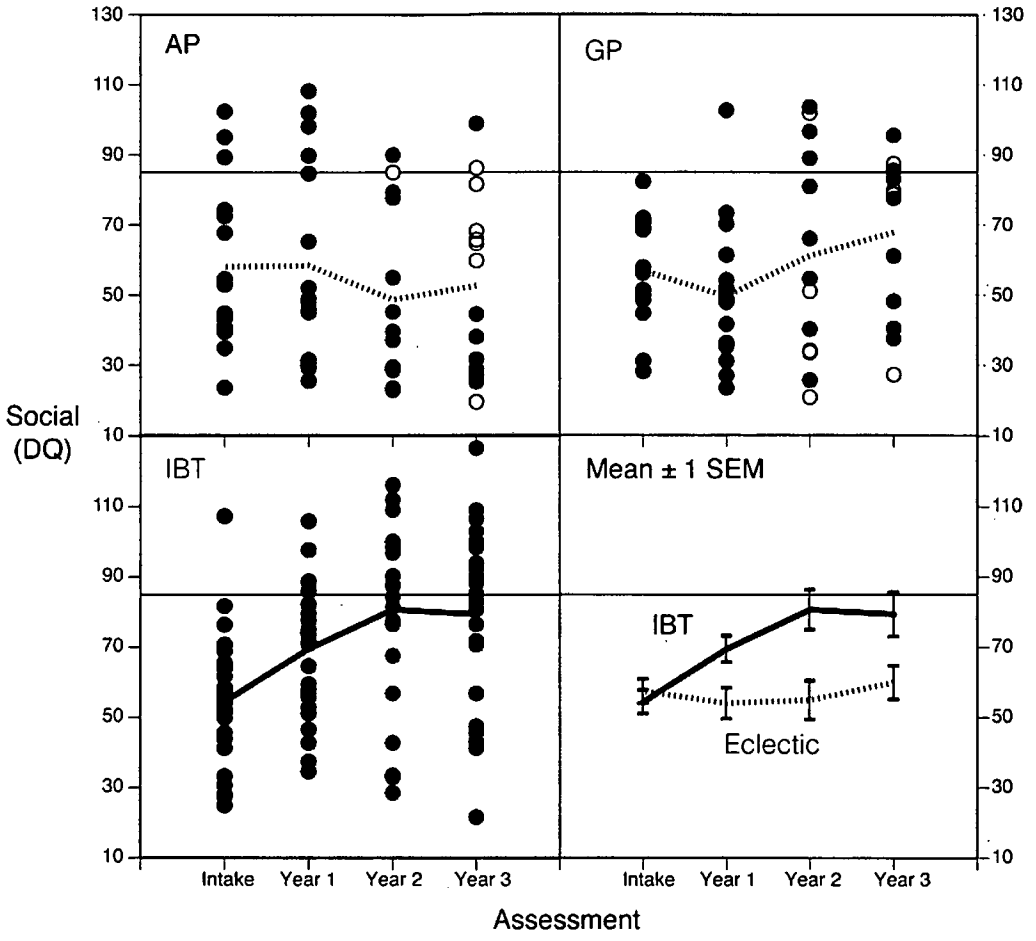

Fig. 5. Social DQs at intake and 1–3 years later. See Fig. 2 caption for details.

were more likely to have favorable outcomes than children in the GP group, though none of those differences was statistically significant. Collectively, these analyses suggest that neither of the comparison treatments was likely to result in favorable outcomes, and that combining the AP and GP groups did not mask any important group differences in outcomes.

Fig. 7 is a graphic representation of the percentages of children in the IBT group and the combined AP and GP groups who had scores in the normal range at each assessment. At intake, those percentages were comparably small for both groups on all measures except the motor skills DQ, on which fairly large proportions of both groups (57% IBT, 47% AP/GP combined) had scores in the normal range. By the end of treatment, a larger percentage of children in the IBT group than in the AP/GP group had scores in the normal range on all measures except the self-help DQ.

Individuals with final scores that were in the normal range (≥85) or at least one standard deviation above intake scores can be readily identified in Fig. 8. In this figure, each child's score on each measure is plotted as a function of his or her score at intake (on the *x*-axis) and the change from intake to the final assessment (on the *y*-axis; the final assessment was made at Year 2 if the child was not assessed at Year 3). Final scores in the normal range appear in the dark gray region of each panel, and scores representing increases of at least one standard deviation over intake are in the light gray regions. Both regions are populated by more children in the IBT group (closed circles) than by children in the other two groups (open symbols). That is, more of the children who received IBT had final outcomes that constituted clinically important changes over baseline than did children who received either of the other two treatments.

An important question is whether children in this study who attained normal levels of functioning at any point maintained those levels over the course of treatment. That question is difficult to answer, because only a portion of the children in each group had scores in the normal range at any assessment time, and not all children were assessed at both Year 2 and Year 3. Nevertheless, the question is sufficiently important to merit an attempt to answer it. For this analysis, children were classified into four categories of outcomes: (a) scored <85 one year and remained <85 the next year; (b) scored <85 one year but scored ≥85 the next year (i.e., transitioned to a normal range of functioning); (c) scored ≥85 one year but scored <85 the next year (i.e., regressed); and (d) scored ≥85 one year and remained ≥85 the following year. Those categories were then combined across measures to calculate the probability of each of the four outcomes for each year-to-year assessment transition. Separate calculations were made for children in the IBT group and for children in the combined AP and GP groups.

Results of these analyses are illustrated by the Sankey diagram shown in Fig. 9. In this figure, arrows are not just proportional in width to the quantities the represent; they are also horizontal if they represent children who maintained

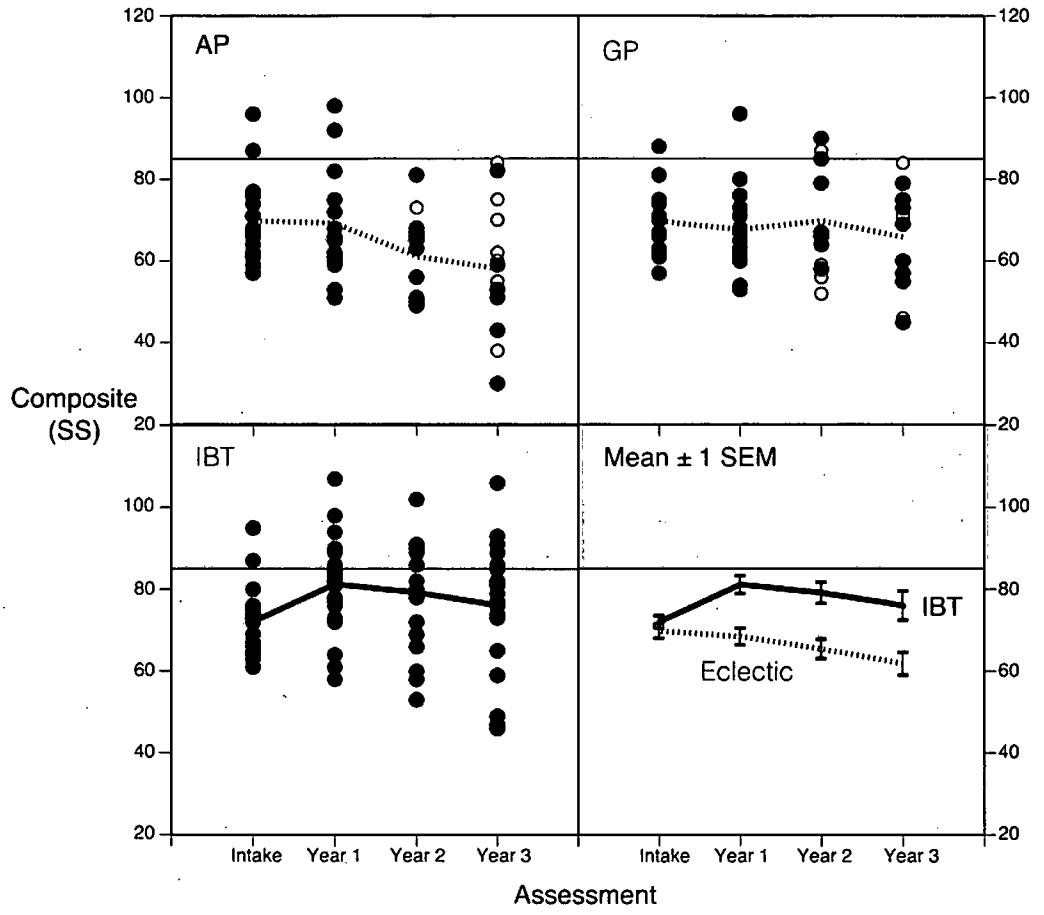

Fig. 6. Composite adaptive skills SSs at intake and 1–3 years later. See Fig. 2 caption for details.

assessed levels of functioning, they slant upward for children who improved, and they slant downward for children who regressed from one year to the next. The figure should be interpreted cautiously, because it represents data that were collapsed across measures and is based upon other suboptimal manipulations. Nevertheless, several intriguing trends are suggested. One is that most children who moved from below-normal to normal-range functioning did so after one year of treatment. For both groups, the probability of moving into the normal range was higher from intake to Year 1 than from Year 1 to Year 2, or from Year 2 to Year 3 (indicated by the upward-slanting arrows in Fig. 9). Stated differently, the prospect of achieving scores in the normal range diminished with each additional year of treatment, but the likelihood of scoring in the normal range was substantially and consistently higher for children in the IBT group than for children in the AP/GP groups combined at all three years post-intake (as shown by the percentages in the upward-slanting arrows). For children in the AP/GP group, if a score ≥85 was not attained after one year of treatment, the prospects for attaining a normal score were extremely dim.

A second general trend, confirming analyses presented in preceding tables and figures, is that children in the IBT group were far more likely to score in the normal range at all three post-intake assessments than were children in the two comparison groups. Further, percentages shown in the upward slanting arrows indicate that children in the IBT group were more than three times as likely as children in the AP and GP groups to have scores that moved them from the below-normal to the normal range at Years 1–3. That advantage was not limited to Year 1 scores; it remained relatively consistent throughout all three years of the study.

A final trend, illustrated by the downward slanting arrows in Fig. 9, is that regressions from normal to below-normal range scores were much more common for children in the AP/GP group than for children in the IBT group. In fact, children in the AP/GP group were 3.45 times as likely to regress as to advance during the first year of treatment, 4.45 times more likely to regress than advance during the second year of treatment, and 4.91 times more likely to regress than advance in the third year of treatment. The opposite pattern was seen for children in the IBT group, where advancements were 2.48 times as likely as regressions during the first year of treatment. Advancements and regressions occurred about equally often between Year 1 and Year 2 for the IBT group (the ratio was 1.08 in favor of advancements), but in the third year of treatment advancements were 1.75 times as frequent as regressions. Collectively, these findings suggest that children who received IBT were much more likely to attain and maintain normal levels of functioning than were children who received either of the other treatments.

Table 4
Percent of children with favorable outcomes, and odds ratios and probability ratios for each measure.

Measure	Group	Final score ≥ 85	Odds ratio (probability ratio)	Final score ≥ 15 points above intake	Odds ratio (probability ratio)	Either desirable outcome	Odds ratio (probability ratio)
Cognitive (SS)	IBT	61% ($n = 28$)	4.64** (2.43)	81% ($n = 27$)	8.00** (2.30)	82% ($n = 28$)	8.78** (2.39)
	AP/GP combined	25% ($n = 32$)		35% ($n = 31$)		34% ($n = 32$)	
	AP	25% ($n = 16$)	1.00 (1.00)	38% ($n = 16$)	1.20 (1.13)	38% ($n = 16$)	1.32 (1.20)
	GP	25% ($n = 16$)		33% ($n = 15$)		31% ($n = 16$)	
Non-verbal (DQ)	IBT	85% ($n = 27$)	8.40** (2.10)	60% ($n = 20$)	3.00 (1.80)	85% ($n = 27$)	6.52** (1.82)
	AP/GP combined	41% ($n = 32$)		33% ($n = 27$)		47% ($n = 32$)	
	AP	31% ($n = 16$)	0.45 (0.63)	31% ($n = 16$)	0.80 (0.86)	44% ($n = 16$)	0.78 (0.88)
	GP	50% ($n = 16$)		36% ($n = 11$)		50% ($n = 16$)	
Receptive (DQ)	IBT	26% ($n = 27$)	5.08* (4.02)	78% ($n = 27$)	8.17** (2.59)	85% ($n = 27$)	10.45** (2.40)
	AP/GP combined	6% ($n = 31$)		30% ($n = 30$)		35% ($n = 31$)	
	AP	6% ($n = 16$)	0.93 (0.94)	31% ($n = 16$)	1.14 (1.09)	38% ($n = 16$)	1.20 (1.13)
	GP	7% ($n = 15$)		29% ($n = 14$)		33% ($n = 15$)	
Expressive (DQ)	IBT	46% ($n = 28$)	5.85** (3.60)	82% ($n = 28$)	9.20** (2.46)	82% ($n = 28$)	9.66** (2.55)
	AP/GP combined	13% ($n = 31$)		33% ($n = 30$)		32% ($n = 31$)	
	AP	13% ($n = 16$)	0.93 (0.94)	31% ($n = 16$)	0.82 (0.88)	31% ($n = 16$)	0.91 (0.94)
	GP	13% ($n = 15$)		36% ($n = 14$)		33% ($n = 15$)	
Commun-ication (DQ)	IBT	36% ($n = 28$)	3.89* (2.86)	68% ($n = 28$)	2.25 (1.40)	75% ($n = 28$)	3.00* (1.50)
	AP/GP combined	13% ($n = 32$)		48% ($n = 31$)		50% ($n = 32$)	
	AP	13% ($n = 16$)	1.00 (1.00)	38% ($n = 16$)	0.40 (0.63)	38% ($n = 16$)	0.36 (0.60)
	GP	13% ($n = 16$)		60% ($n = 15$)		63% ($n = 16$)	
Self-help (DQ)	IBT	11% ($n = 28$)	3.72 (3.43)	39% ($n = 28$)	1.36 (1.22)	43% ($n = 28$)	1.65 (1.37)
	AP/GP combined	3% ($n = 32$)		32% ($n = 31$)		31% ($n = 32$)	
	AP	0% ($n = 16$)	0.00 (0.00)	38% ($n = 16$)	1.65 (1.41)	38% ($n = 16$)	1.80 (1.50)
	GP	6% ($n = 16$)		27% ($n = 15$)		25% ($n = 16$)	
Social (DQ)	IBT	54% ($n = 28$)	4.12* (2.45)	67% ($n = 27$)	2.77 (1.59)	71% ($n = 28$)	3.65* (1.76)
	AP/GP combined	22% ($n = 32$)		42% ($n = 31$)		41% ($n = 32$)	
	AP	13% ($n = 16$)	0.31 (0.40)	25% ($n = 16$)	0.22* (0.42)	25% ($n = 16$)	0.26 (0.44)
	GP	31% ($n = 16$)		60% ($n = 15$)		56% ($n = 16$)	
Motor (DQ)	IBT	57% ($n = 28$)	1.51 (1.22)	19% ($n = 27$)	0.91 (0.93)	57% ($n = 28$)	1.51 (1.22)
	AP/GP combined	47% ($n = 32$)		20% ($n = 30$)		47% ($n = 32$)	
	AP	31% ($n = 16$)	0.27 (0.50)	0% ($n = 16$)	0.00** (0.00)	31% ($n = 16$)	0.27 (0.50)
	GP	63% ($n = 16$)		43% ($n = 14$)		63% ($n = 16$)	
Composite (SS)	IBT	36% ($n = 28$)	8.33** (5.71)	16% ($n = 25$)	1.65 (1.55)	36% ($n = 28$)	5.37* (3.81)
	AP/GP combined	6% ($n = 32$)		10% ($n = 29$)		9% ($n = 32$)	
	AP	0% ($n = 16$)	0.00 (0.00)	0% ($n = 16$)	0.00* (0.00)	0% ($n = 16$)	0.00* (0.00)
	GP	13% ($n = 16$)		23% ($n = 13$)		19% ($n = 16$)	

* Odds ratio differs significantly from 1 ($p < 0.05$).
** Odds ratio differs significantly from 1 ($p < 0.01$).

4. Discussion

4.1. Differential treatment outcomes

Our 2005 study evaluated outcomes for 61 children with autism who received just over one year of either IBT or one of two eclectic interventions. Although the three groups were similar at intake, children who received IBT had significantly higher mean scores after one year of treatment than those who received eclectic interventions. The present study extended

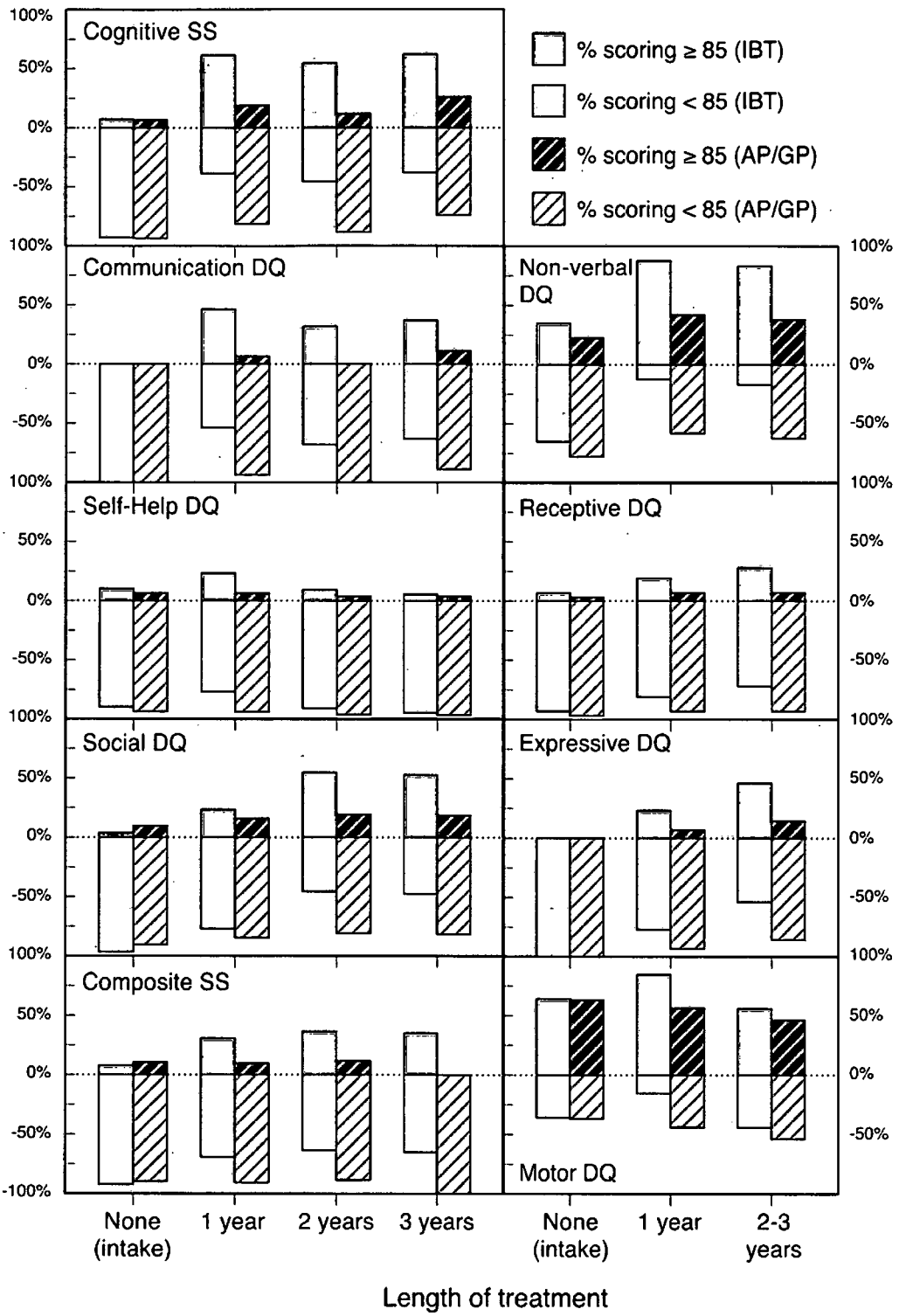

Fig. 7. Percent of children in each treatment group with a score in the normal range (SS or DQ ≥85) at intake and 1–3 years after intake.

those findings by showing that the largest gains generally occurred in the first year of treatment and in IBT children only, and that the advantage experienced by IBT children after one year of treatment was maintained throughout the second and third years of treatment. Indeed, three years after treatment began, mean scores on standardized assessments of cognitive, language, adaptive, and motor skills were higher for children in the IBT group than they were for children in the eclectic intervention groups.

At their final assessment, 61% of the children who received IBT tested within the average range of cognitive functioning, compared with only 25% of the children who received eclectic treatment. That is, children in the IBT group were more than twice as likely to attain a cognitive skills score in the normal range as children in the two eclectic intervention groups. Final

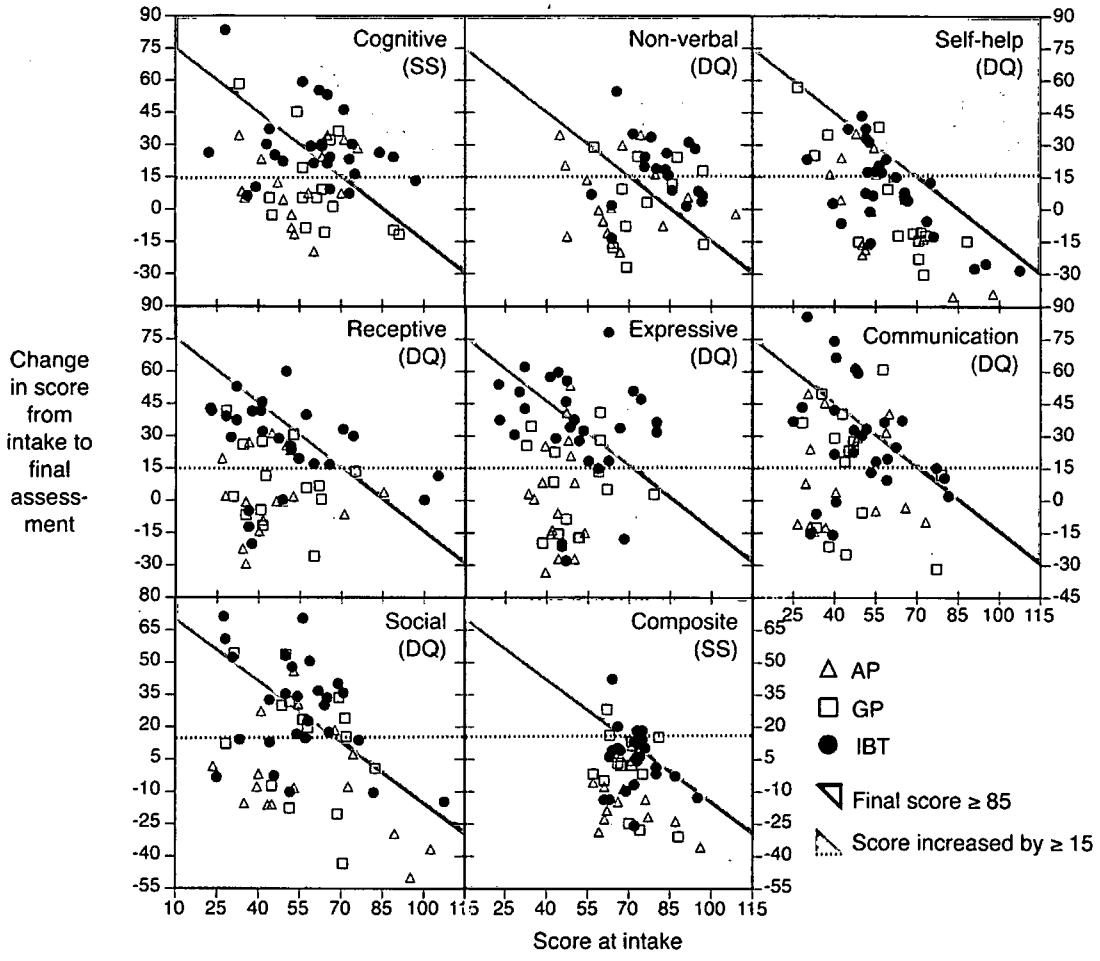

Fig. 8. Scores for individual children on each measure, plotted as a function of the value at intake along the x-axis, and the change from intake to Year 3 (or Year 2 if the child was not assessed at Year 3) along the y-axis. Scores of children in the IBT group are shown as solid circles, scores of children in the AP group are represented by open triangles, and scores of children in the GP group are shown as open squares. Final scores in the normal range (≥85) appear in the dark gray region of each panel, and final scores <85 but at least 15 points higher than at intake (i.e., above the dotted line in each panel) appear in the light gray region of each panel.

assessment scores on other measures showed similar patterns. Compared to children who received eclectic interventions, children who received IBT were twice as likely to score in the normal range on the final assessment of nonverbal skills, approximately three times as likely to score in the normal range on the final assessments of communication and adaptive skills, approximately four times as likely to score within the normal range on the final assessments of receptive and expressive communication skills, and almost six times more likely to have a final adaptive behavior skills composite score within the normal range.

As they were at Year 1, average outcomes at Years 2 and 3 were worse for children in the AP and GP groups than for children in the IBT group, while average outcomes for the two eclectic intervention groups did not differ significantly from each other. The mean score for the GP group was higher than the mean score for the AP group on some measures in some years, but there were no statistically reliable differences between outcomes produced by the two eclectic treatments. Additionally, both eclectic treatments performed substantially worse than IBT in producing standardized test scores in the normal range of functioning, and neither eclectic treatment was more likely than the other to produce a favorable outcome. The results for the AP intervention might be surprising to some readers because that intervention was intensive and designed specifically for children with autism. Despite these features, no child from the AP group scored in the normal range on the final assessment of adaptive functioning. In contrast, more than one-third of the children in the IBT group achieved a normal-range score on the final assessment of adaptive skills. These findings are especially important given the critical contribution of adaptive skills to independent functioning throughout the lifespan.

Although scores in the normal range are certainly desirable outcomes, so are other clinically significant improvements. Changes in test scores that do not reach the normal range may nonetheless reflect the acquisition of many skills that enhance independent functioning, which in turn produces economic savings due to reduced need for specialized services (Jacobson, Mulick, & Green, 1998; Motiwala, Gupta, Lilly, Ungar, & Coyte, 2006). About one-third of the children in this study who received AP or GP interventions had final scores on tests of cognitive or adaptive skills that were at least 15 points higher than

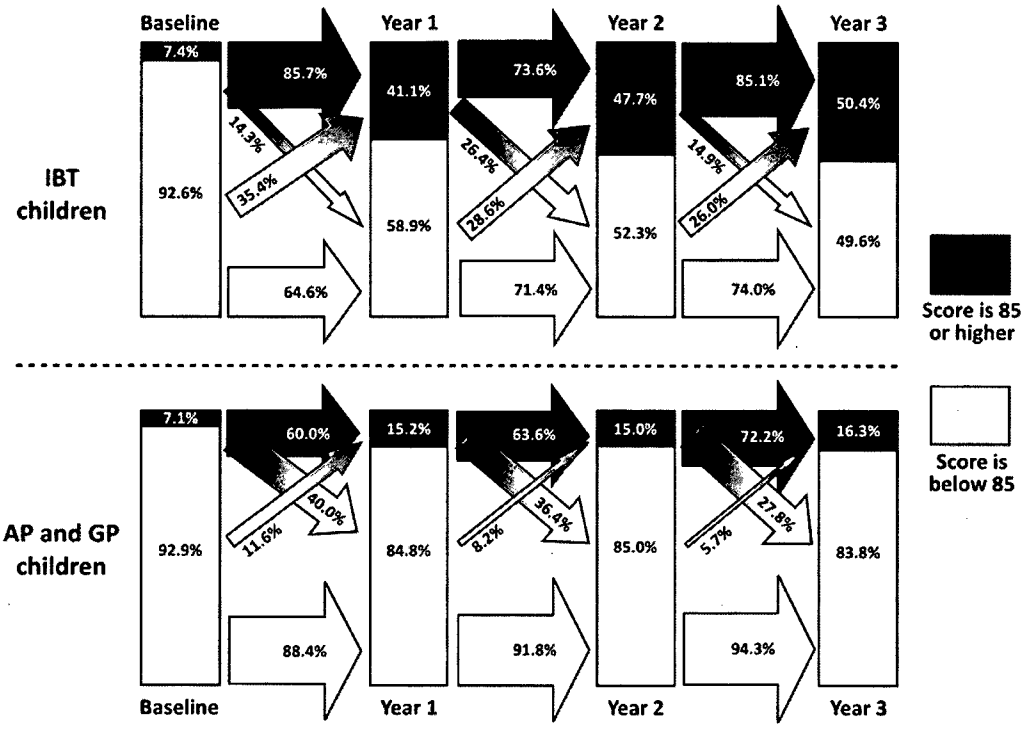

Fig. 9. Percentages of children who scored in the normal range (gray region) or below 85 (white region) at each assessment time, and who transitioned from one of those ranges to another on successive assessments. Horizontal arrows indicate maintenance of scores in the normal range (gray arrows) or in the below-normal range (white arrows). Upward-slanting arrows indicate changes from below-normal to normal-range scores, and downward-slanting arrows represent changes from normal to below-normal range scores.

their intake scores, suggesting that those interventions may produce some benefit for some children with autism. Children in the IBT group, however, were more than twice as likely as children in the other two groups to show changes of that magnitude over the course of treatment. Differences on most other measures were somewhat smaller but equally clear and in the same direction. Motor skills scores were an exception, as they were somewhat more likely to increase by at least 15 points among children in the AP and GP groups than among children in the IBT group. However, that difference was not statistically significant.

The multiple regression approach we used for most of our statistical analyses accommodated individual differences (e.g., in parental education and age at diagnosis), but of course those analyses focused on group data. Group comparisons are appropriate for determining which of two or more treatments is generally most effective; however, we urge caution in relying exclusively on group statistics to prognosticate about individual children. It is clear from the individual data presented here (Figs. 2–6) that not all children within each treatment group responded similarly to that treatment. Research correlating child characteristics with differential outcomes might help identify categories of children who are more or less likely to respond well to a given treatment on average, but more precise information about the effects of treatments on individuals with varying characteristics could be gleaned from studies using single-case research designs, perhaps in combination with elements of between-groups designs (Green, 2008; Guyatt et al., 2008; Larson, 1990; Morgan & Morgan, 2001; Powers et al., 2006). Research methods that focus on changes in individual behavior with treatment could also enable analyses of the differential effectiveness of elements of multicomponent treatments like IBT (e.g., Heyvaert, Maes, Van den Noortgate, Kuppens, & Onghena, 2012) as well as treatment targets that function as behavioral cusps to bring the individual's behavior into contact with new contingencies of reinforcement, thereby producing even more widespread behavior change (Rosales-Ruiz & Baer, 1997).

4.2. Changes over the course of treatment

In this study, the changes that occurred during the first year of treatment were generally maintained throughout the second and third years for children in all three groups. Group mean scores in Years 2 and 3 tended to remain within ±5 points of the corresponding group means at the end of Year 1, with the large differences in favor of IBT after one year largely persisting throughout Years 2 and 3. Other studies comparing IBT with eclectic treatment over similar time periods have produced similar findings (Cohen et al., 2006; Eikeseth et al., 2007). One difference is that the IBT advantage was larger after a mean of 31.4 months of treatment than after one year of treatment in the study by Eikeseth et al. (2007). That may be related to the fact that the children studied by Eikeseth et al. were older when they started treatment than the children in our study and the study by Cohen et al.

(2006), but it might also reflect differences in other child characteristics or the treatment packages (e.g., variations in targets, priorities, procedures, etc.).

Measures of some skill domains in our study deviated from the trends just described. For instance, the mean motor and self-help scores for the IBT group were higher than those for either eclectic intervention group at the end of Year 1, but the differences between the final group means on those measures were not statistically significant. That was at least partly due to reduced sample sizes at Year 3. It should also be reiterated that motor skills were not delayed substantially for any of the groups at intake, and motor and self-help skills were not among the highest priority treatment targets for many of the children who received IBT.

The fact that most of the largest improvements in the IBT group occurred after one year of treatment might lead some to conclude that there is little benefit in extending treatment beyond the first year. Such a conclusion might be warranted if there were compelling evidence to support predictions that improvements would persist if treatment were to end after one year. Our study cannot speak to that hypothesis, because none of the children in the IBT group received just one year of treatment. Nor are we aware of other studies that have tested that hypothesis directly. One group of researchers did, however, evaluate the performances of 23 young children with autism two years after they had completed a 2-year course of IBT (Kovshoff, Hastings, & Remington, 2011). They found that a subgroup of 9 children who had statistically significant increases on tests of cognitive and adaptive skills during treatment maintained those gains after two years with no treatment, but the scores of the other 14 children decreased significantly. Analyses showed that the first subgroup had higher baseline scores and received more intensive treatment than did the second subgroup. Although limited, those findings corroborate our clinical observations that terminating IBT prematurely can be detrimental to many children with autism.

Ending IBT after one year might also be justified if it were reasonably certain that extending treatment would be unlikely to produce further clinically significant gains. Again, we have found no compelling evidence to support that prediction. On the contrary, some children in our IBT group made marked improvements in Years 2 and 3 (e.g., see the upward-pointing arrows in Fig. 9). Other researchers have also documented meaningful improvements occurring in the second, third, and fourth year of IBT (e.g., Cohen et al., 2006; Eikeseth et al., 2007; Sallows & Graupner, 2005). We speculate that given the pervasive and substantial skill deficits exhibited by many young children with autism, one and even two years of IBT is not likely to produce gains that will persist over long periods of time without specialized intervention. The first 1–2 years of IBT are typically focused on building many basic, foundational skills. Further intensive treatment seems essential for solidifying those repertoires and for building the more complex social, language, and academic skills required to function successfully in regular school and community settings.

4.3. Limitations

Participants in this study were not randomly assigned to groups; instead, treatment assignments primarily reflected parental preferences and education team decisions. In Howard et al. (2005), however, we demonstrated empirically that the three groups were functionally equivalent at intake. The only statistically significant group differences were in parental education (parents of children in the IBT group averaged one year more of education than parents of children in the AP and GP groups) and age at diagnosis (children in the IBT group were diagnosed an average of 5 months earlier than children in the GP group, who in turn were diagnosed an average of 4 months earlier than children in the AP group). Both variables were controlled for statistically in subsequent data analyses, though control was rarely necessary because individual scores almost never covaried with parental education or age at diagnosis.

Another limitation is that some children switched between the AP and GP treatments during Years 2 and 3. We have no information about the reasons for those shifts, but it would be unusual for an education team to recommend moving a child out of an effective program and for the child's family to approve such a change. Therefore, we speculate that the changes may speak to the lack of efficacy of either eclectic approach. The data showed that neither eclectic treatment reliably produced meaningful benefits, and when children switched from one eclectic treatment to the other, there was rarely any improvement with the new treatment. These findings imply that the two eclectic treatments were essentially indistinguishable in their efficacy, and that our analyses and conclusions were not compromised by the fact that some children switched from one eclectic treatment to the other.

The impact of mortality on our findings should be considered. Virtually all children were assessed in all domains at intake and Year 1, but participation rates were lower in subsequent years. The reduced sample sizes forced us to combine data from Years 2 and 3 to analyze outcomes for the nonverbal intelligence, receptive language, expressive language, and motor skills measures. That precluded mapping developmental trajectories for those domains as precisely as we did for other domains. It is important to note, however, that mortality does not seem to have biased the overall findings. In fact, imputation analyses suggest that the group differences we observed were not artifacts of mortality; if anything, the advantage of IBT over the eclectic treatments would likely have been greater if more comprehensive assessment data were available for Years 2 and 3.

The primary limitation of our study may be that there were no measures of the integrity with which any of the treatments was delivered, as we reported in Howard et al. (2005). Additionally, each treatment comprised a number of components, and it was not feasible to parse out the contributions of individual components to the outcomes. Nonetheless, our findings converge with those of other studies in which IBT and a comparison eclectic treatment program had similar elements, intensity, and duration (e.g., Cohen et al., 2006; Eikeseth et al., 2007). They add to the growing body of evidence that IBT

produces significantly larger increases on standardized measures of cognitive and adaptive functioning than other treatments. Although those measures do not capture all repertoires that may be influenced by intervention, they are considered more objective than indices like classroom placement, and correlate positively with other measures of overall and long-term functioning. Thus, there is general consensus among autism researchers that protocols for evaluating treatment effects must include certain standardized instruments (e.g., Eldevik et al., 2009, 2010; Fein et al., 2013; Martin, Bibby, Mudford, & Eikseth, 2003; Mundy, 1993; Wolery & Garfinkle, 2002), Collectively, this study and others that used such protocols clearly indicate that IBT is an effective, evidence-based treatment for young children diagnosed with autism.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.ridd.2014.08.021.

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The University of the State of New York

The State Education Department

State Review Officer

www.sro.nysed.gov

No. 17-008

Application of a STUDENT WITH A DISABILITY, by his parents, for review of a determination of a hearing officer relating to the provision of educational services by the Board of Education of the Shenendehowa Central School District

Appearances:
Ferrara Fiorenza, PC, attorneys for respondent, Susan T. Johns, Esq., of counsel

DECISION

I. Introduction

This proceeding arises under the Individuals with Disabilities Education Act (IDEA) (20 U.S.C. §§ 1400-1482) and Article 89 of the New York State Education Law. Petitioners (the parents) appeal from the decision of an impartial hearing officer (IHO) which determined that the educational program and related services recommended by respondent's (the district's) Committee on Special Education (CSE) for their son for the 2016-17 school year were appropriate. The appeal must be sustained in part.[1]

II. Overview—Administrative Procedures

When a student in New York is eligible for special education services, the IDEA calls for the creation of an individualized education program (IEP), which is delegated to a local Committee on Special Education (CSE) that includes, but is not limited to, parents, teachers, a school psychologist, and a district representative (Educ. Law § 4402; see 20 U.S.C. § 1414[d][1][A]-[B]; 34 CFR 300.320, 300.321; 8 NYCRR 200.3, 200.4[d][2]). If disputes occur between parents and

[1] In September 2016, Part 279 of the Practice Regulations were amended, which became effective January 1, 2017, and are applicable to all appeals served upon an opposing party on or after January 1, 2017 (see N.Y. Reg., Sept. 28, 2016, at pp. 37-38; N.Y. Reg., June 29, 2016, at pp. 49-52; N.Y. Reg., Jan. 27, 2016, at pp. 24-26). Although the relevant events at issue in this appeal occurred before the effective date of the 2016 amendments, the new provisions of Part 279 apply, as the request for review was served upon the opposing party after January 1, 2017; therefore, citations contained in this decision, are to the amended provisions of Part 279 unless otherwise specified.

school districts, incorporated among the procedural protections is the opportunity to engage in mediation, present State complaints, and initiate an impartial due process hearing (20 U.S.C. §§ 1221e-3, 1415[e]-[f]; Educ. Law § 4404[1]; 34 CFR 300.151-300.152, 300.506, 300.511; 8 NYCRR 200.5[h]-[*l*]).

New York State has implemented a two-tiered system of administrative review to address disputed matters between parents and school districts regarding "any matter relating to the identification, evaluation or educational placement of a student with a disability, or a student suspected of having a disability, or the provision of a free appropriate public education to such student" (8 NYCRR 200.5[i][1]; see 20 U.S.C. § 1415[b][6]-[7]; 34 CFR 300.503[a][1]-[2], 300.507[a][1]). First, after an opportunity to engage in a resolution process, the parties appear at an impartial hearing conducted at the local level before an IHO (Educ. Law § 4404[1][a]; 8 NYCRR 200.5[j]). An IHO typically conducts a trial-type hearing regarding the matters in dispute in which the parties have the right to be accompanied and advised by counsel and certain other individuals with special knowledge or training; present evidence and confront, cross-examine, and compel the attendance of witnesses; prohibit the introduction of any evidence at the hearing that has not been disclosed five business days before the hearing; and obtain a verbatim record of the proceeding (20 U.S.C. § 1415[f][2][A], [h][1]-[3]; 34 CFR 300.512[a][1]-[4]; 8 NYCRR 200.5[j][3][v], [vii], [xii]). The IHO must render and transmit a final written decision in the matter to the parties not later than 45 days after the expiration period or adjusted period for the resolution process (34 CFR 300.510[b][2], [c], 300.515[a]; 8 NYCRR 200.5[j][5]). A party may seek a specific extension of time of the 45-day timeline, which the IHO may grant in accordance with State and federal regulations (34 CFR 300.515[c]; 8 NYCRR 200.5[j][5]). The decision of the IHO is binding upon both parties unless appealed (Educ. Law § 4404[1]).

A party aggrieved by the decision of an IHO may subsequently appeal to a State Review Officer (SRO) (Educ. Law § 4404[2]; see 20 U.S.C. § 1415[g][1]; 34 CFR 300.514[b][1]; 8 NYCRR 200.5[k]). The appealing party or parties must identify the findings, conclusions, and orders of the IHO with which they disagree and indicate the relief that they would like the SRO to grant (8 NYCRR 279.4[a]). The opposing party is entitled to respond to an appeal or cross-appeal in an answer (8 NYCRR 279.5). The SRO conducts an impartial review of the IHO's findings, conclusions, and decision and is required to examine the entire hearing record; ensure that the procedures at the hearing were consistent with the requirements of due process; seek additional evidence if necessary; and render an independent decision based upon the hearing record (34 CFR 300.514[b][2]; 8 NYCRR 279.12[a]). The SRO must ensure that a final decision is reached in the review and that a copy of the decision is mailed to each of the parties not later than 30 days after the receipt of a request for a review, except that a party may seek a specific extension of time of the 30-day timeline, which the SRO may grant in accordance with State and federal regulations (34 CFR 300.515[b], [c]; 8 NYCRR 200.5[k][2]).

III. Facts and Procedural History

In this case, the student first received special education and related services through Early Intervention Program for approximately one month in late 2012 (see Dist. Ex. 3). The services terminated because the student moved out of the country (id.). Upon his return to the United States in February 2014, the parents referred the student to the Committee on Preschool Special

Education (CPSE) for an evaluation (id.; see Dist. Exs. 4; 6 at p. 1; 11 at p. 1).[2] After receiving the parents' consent to evaluate the student in May 2014, a CPSE convened in June 2014 for an initial eligibility determination meeting and found the student eligible for special education and related services as a preschool student with a disability (see Joint Ex. 2 at p. 1; Dist. Ex. 11 at pp. 2-4; see generally Dist. Exs. 5-9).[3] The June 2014 CPSE recommended that the student receive special education itinerant teacher (SEIT) services and occupational therapy (OT) beginning in July and August 2014, and recommended the same services for September 2014 through June 2015 (see Joint Ex. 2 at p. 1).[4] In August 2014, a CPSE convened to review the student's program (see Dist. Ex. 15 at p. 1; see generally Dist. Exs. 13-14). The August 2014 CPSE modified the student's IEP by increasing the frequency of the student's SEIT services for September 2014 through June 2015; the CPSE also recommended a speech-language evaluation of the student (compare Dist. Ex. 15 at p. 1, with Joint Ex. 2 at p. 1; see Dist. Ex. 16 at p. 1).

Following a speech-language evaluation in September 2014, the CPSE convened for a reevaluation review (see Dist. 19 at p. 1; see generally Dist. Exs. 17-18). The September 2014 CPSE discontinued the SEIT services previously recommended in the August 2014 IEP, and instead, recommended a 12:1+2 special class placement in a non-integrated setting, speech-language therapy services, special transportation, and modified the location where the student received OT services (compare Dist. Ex. 19 at p. 1, with Dist. Ex. 15 at p. 1; see generally Dist. Exs. 20-21). Pursuant to the modifications, the student was placed in a State-approved non-integrated preschool setting (preschool) on or about October 1, 2014 (see Tr. pp. 466-67; see generally Dist. Ex. 23).

In March 2015, the CPSE convened for a program review (see Dist. Ex. 24 at p. 1). At that time, the March 2015 CPSE modified the student's program from a 12:1+2 special class placement in a non-integrated setting to a recommendation that the student attend a 12:1+2 special class placement in an integrated setting beginning at the end of March 2015 (compare Dist. Ex. 24 at p.

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[2] The parents indicated that when the student returned to the United States, he did not understand English and the "only language he c[ould] understand or express himself in" was his native language (Dist. Ex. 3). At that time, the parents reported that the student could not, however, "say a full sentence" (id.).

[3] According to a May 2014 psychological evaluation report, at home, one parent spoke to the student primarily in English, while the other parent spoke to the student primarily in his native language (see Dist. Ex. 6 at p. 1). In addition, the student attended a daycare facility Monday through Friday where he was "exposed solely to English" (id.).

[4] Shortly after the June 2014 CPSE convened, the student went to an appointment with a developmental pediatrician (see Dist. Exs. 11 at p. 1; 12 at p. 1). In conjunction with the appointment, the parents received "Patient Instructions," which "encouraged [the CPSE] to consider [the] diagnosis of autism spectrum disorder in planning for educational supports" for the student (Dist. Ex. 12 at p. 1). The instructions sheet further noted that "[c]onsideration for center-based programming [was] indicated in the Fall" (id.). The remainder of document included information from the American Academy of Pediatrics; common questions about autism spectrum disorders; internet website addresses; and information about a variety of intervention services available, including: applied behavior analysis (ABA); "Early Start Denver Model"; "Treatment and Education of Autistic and Related Communication Handicapped Children" (TEACCH); the "Developmental, Individual Difference, Relationship-based" (DIR) model; the "Social Communication, Emotional Regulation, and Transactional Support" (SCERTS) model; and the "Relationship Development Intervention" (RDI) model (id. at pp. 1-3).

1, with Dist. Ex. 19 at p. 1; see generally Dist. Exs. 23; 25-26).[5] In the meeting minutes, the CPSE noted that the student "had been visiting an integrated classroom" for approximately one month, and he enjoyed "interacting with other students" and "produc[ed] more language in th[at] setting" (Dist. Ex. 26 at pp. 1-2). The meeting minutes also reflected that the student would be referred to the CSE and that he would receive a 12-month school year program for summer 2015 (id. at pp. 1, 5-8; see also Dist. Ex. 25 at p. 1).

On May 19, 2015, a subcommittee of the CSE (CSE subcommittee) convened to conduct a reevaluation of the student's transition from receiving CPSE (preschool) services to receiving CSE (school-age) services and to develop an IEP for the 2015-16 school year (kindergarten) (see Dist. Ex. 28 at p. 1; see generally Dist. Ex. 27). Finding the student eligible to receive special education and related services as a student with autism, the May 2015 CSE recommended that, in addition to participating with his nondisabled kindergarten peers in the "general education setting as appropriate,"[6] the student would attend a daily 12:1+1 special class placement ("Connections") for English language arts (1.5 hours per day), mathematics (45 minutes per day), and "[a]ll [s]chool settings" (15 minutes per day) (Dist. Ex. 28 at pp. 7, 9).[7, 8] The May 2015 CSE also recommended one 90-minute session per week of direct and indirect consultant teacher services for social studies and science, as well as the following related services: six 30-minute sessions per month of speech-language therapy in a small group, three 30-minute sessions per month of individual speech-language therapy, three 30-minute sessions per month of OT in a small group, and three 30-minute sessions per month of individual OT (id. at pp. 7-8). In addition, the May 2015 CSE recommended supplementary aids and services, program modifications, and accommodations, such as a daily sensory program, modified assignments, refocusing and redirection, and the services of a shared aide (3:1, three hours per day) (id. at p. 8).[9]

In September 2015, the student began attending a morning kindergarten session and the 12:1+1 special class placement in the afternoon (see Tr. pp. 466-67; Dist. Ex. 51).[10] By October

[5] Although the meeting minutes indicated the CPSE recommended moving the student to an 8:1+1 special class placement in an integrated setting, the March 2015 IEP and the corresponding prior written notice both reflected a 12:1+2 special class placement recommendation (compare Dist. Ex. 26 at p. 1, with Dist. Ex. 24 at p. 1, and Dist. Ex. 25 at p. 1).

[6] Nondisabled students in the district's general education setting attended either a morning or afternoon kindergarten session for approximately 2 hours and 40 minutes per day (see Tr. pp. 466, 517).

[7] The student's eligibility for special education programs and related services as a student with autism is not in dispute (see 34 CFR 300.8[c][1]; 8 NYCRR 200.1[zz][1]).

[8] In the hearing record and within the May 2015 IEP, the special class placement recommended in the May 2015 IEP was also referred to as "Connections" (Dist. Ex. 28 at p. 7; see, e.g., Tr. pp. 465-66).

[9] A 2014-15 school year progress report reflected that by June 2015, the student achieved approximately 5 out of the 9 total annual goals included on the September 2014 and March 2015 CPSE IEPs, and achieved approximately 8 out of the 10 total corresponding short-term objectives (see generally Dist. Ex. 29).

[10] At the impartial hearing, the district special education teacher of the student's 12:1+1 special class placement for the 2015-16 school year testified that the classroom was staffed with one teacher and four aides and contained a total of four students (see Tr. pp. 201, 204, 207-08, 211).

13, 2015, the parents voiced concerns about the student's placement and requested a CSE meeting (see Dist. Ex. 34 at p. 1).[11] On October 19, 2015, the parents met with district staff for a "CSE pre-meeting;" the next day, on October 20, 2015, the parents executed a due process complaint notice (see Tr. pp. 217, 219, 224-25, 228-29; Dist. Exs. 30; 31 at pp. 1-7).

On October 22, 2015, a CSE subcommittee convened pursuant to the parents' request for a meeting (see Dist. Ex. 32 at p. 1; see also Dist. Ex. 34 at p. 6). Although the CSE subcommittee ultimately rejected the parents' request to enroll the student in his preschool program because the student was "making progress in his current program," the CSE subcommittee agreed to "follow-up" with the student's preschool program and reconvene another meeting (Dist. Ex. 34 at pp. 6, 8-9, 11; see Dist. Exs. 30; 38 at pp. 1-7).[12, 13]

On or about November 10, 2015, the parents executed a second due process complaint notice—similar to the due process compliant notice executed on October 20, 2015—that documented their concerns about the student's program, and requested, as relief, that the district enroll the student at his preschool program "under the CPSE" (compare Dist. Ex. 31 at pp. 1-3, 7, with Dist. Ex. 37 at pp. 1-3, 7). On November 23, 2015, the parties met for a resolution meeting; at that time, the parties resolved the parents' claims (see Dist. Ex. 39). According to the resolution agreement, the district agreed to provide special education services to the student for the remainder of the 2015-16 school year "as a student eligible to attend kindergarten [but] who [was] withheld from kindergarten at the discretion of his parents" (Dist. Ex. 39; see Dist. Ex. 33 at p. 1). Specifically, the district agreed to provide the student with the following special education services beginning on November 30, 2015 at the student's preschool: five 30-minute sessions per week of

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[11] At the impartial hearing, the district director of special education (director) testified that in September or October 2015, the parents approached her with concerns about the student's program (see Tr. pp. 463, 465-67). She testified that the parents wanted the student to have an "ABA program" and to return to the preschool program he attended during the 2014-15 school year (Tr. pp. 465-68).

[12] The CSE subcommittee also recommended that the district administer the "NYSITELL" evaluation to the student (Dist. Ex. 34 at p. 8). Although not explained in the hearing record, the acronym "NYSITELL" typically refers to the "New York State Identification Test for English Language Learners" (http://www.p12.nysed.gov/assessment/nysitell//). The NYSITELL evaluation assesses the "English language level of new students whose home or primary language is other than English," and the evaluation results determine if the student is "entitled to receive English Language Learner (ELL) services and will determine the level of English language support" (http://www.nysed.gov/bilingual-ed/parents/nysitell-and-nyseslat-parent-guides). The "New York State English as a Second Language Achievement Test" (NYSESLAT) annually assesses the "English language proficiency level of ELLs" identified through the NYSITELL (id.). Upon review of the evidence in the hearing record, it does not appear that the district followed through on the recommendation to conduct the NYSITELL (see generally Tr. pp. 1-1442; Dist. Exs. 2-9; 11-51; Parent Exs. H; JJ; M-N; IHO Exs. 3-7; Joint Exs. 1; 10).

[13] At the impartial hearing, the director testified that the district could not legally agree to recommend returning the student to his preschool program as a preschool student with a disability because, at that time, he was five years old and thus, characterized as a school-aged student (see Tr. pp. 467-68, 472-74). However, the district also could not require the student to attend kindergarten because, as a five year old student, he was not yet considered to be of compulsory school-age attendance under State law (see N.Y. Educ. Law § 3205[1][a] [requiring students aged 6 through 16 to attend "full time instruction"]; see also N.Y. Educ. Law § 3202[1] [entitling students aged 5 through 21, who have "not received a high school diploma," to attend public schools]).

resource room, two 30-minute sessions per week of speech-language therapy in a small group, one 30-minute session per week of individual speech-language therapy, one 30-minute session per week of OT in a small group, one 30-minute session per week of individual OT, and transportation services (id.).[14] Beginning in December 2015, the student returned to the preschool, where he remained for the rest of the 2015-16 school year and received special education services as agreed upon by the parties at the resolution meeting (see generally Dist. Exs. 39-44).

On April 9, 2016, in preparation for the student's upcoming annual review, the district special education teacher of the student's 12:1+1 special class placement for the 2015-16 school year conducted a classroom observation of the student at his preschool along with the "school psychologist and the speech therapist" (see Tr. pp. 238-39; Dist. Ex. 44 at p. 1).

On May 20, 2016, the parents returned to the student's developmental pediatrician to discuss "options for programming" (see Parent Ex. JJ at p. 1). The report generated as a result of that visit indicated that the student made "significant progress" in his preschool setting and that he "responded to the [ABA] approach in a strong manner and improved in socialization and language in particular" (id.). During the visit, the pediatrician discussed "general interventions for autism in the academic arena" with the parents (id.). Given the student's continued difficulties in communication and his "level of autism spectrum disorder," the report noted that "continued direct services [were] important for him," and it was "highly appropriate that the central part of his intervention should consider a comprehensive [ABA] approach," which "might include discrete trial training and other documented methods using ABA" (id.). The report also noted that in light of the student's "strong response to this approach in the past it [was] appropriate to consider this as possibly his most successful intervention in the future" (id.).

On June 7, 2016, the parents sent an e-mail to the director, which inquired about whether the director had an opportunity to review articles forwarded to her about interventions for students with autism and which further indicated that the parents decided to enroll the student at his current preschool for summer 2016 (see Joint Ex. 1 at pp. 6-7). In response, the director sent an e-mail on June 13, 2016, noting that "[a]s with every methodology, there [was] not one single methodology that me[t] the needs of every child. Each child, based on their development levels and individual goals, require[d] an individualized approach to support their learning" (id. at p. 7).

At the impartial hearing, the director testified that an initial CSE meeting had been held in the "spring of 2016" to develop the student's IEP for the 2016-17 school year, but at that time, the CSE could not reach a "consensus" (Tr. pp. 478-79; see also Dist. Ex. 46 at p. 8). On June 14, 2016, a CSE reconvened pursuant to the parents' request and to complete the student's annual review and development of the IEP for the 2016-17 school year (kindergarten) (see Dist. Exs. 45 at pp. 1, 8; 46 at pp. 1, 6). Finding that the student remained eligible to receive special education and related services as a student with autism, the June 2016 CSE recommended a 12-month school year program, which consisted of a 12:1+1 special class placement in a non-integrated setting, along with one 30-minute session per week of speech-language therapy, for the months of July

[14] At the impartial hearing, the director testified that although the IEP entered into evidence as District Exhibit 33 indicated a meeting date of "October 22, 2015," the IEP was not generated on that date (compare Dist. Ex. 33 at p. 1, with Tr. pp. 471-73). Rather, District Exhibit 33 represented the IEP agreed upon by the parties as a result of the resolution meeting (compare Dist. Ex. 33 at p. 1, with Tr. p. 472, and Dist. Ex. 39).

and August 2016 (see Dist. Ex. 45 at pp. 1, 8-9). For September 2016 through June 2017, the CSE recommended a 12:1 special class placement ("Connections" program, two hours per day), three 30-minute sessions per month of speech-language therapy in a small group (therapy room), three 30-minute sessions per month of individual speech-language therapy (therapy room), three 30-minute sessions per month of OT in a small group (therapy room), one 30-minute session per month of individual OT (therapy room), and three 30-minute sessions per month of speech-language therapy in a small group (classroom) (id. at pp. 1, 7). The June 2016 CSE also recommended the following as supplementary aids and services, program modifications, and accommodations: positive reinforcement, a visual schedule ("in kindergarten and special education classes"), refocusing and redirection, and "parent training" (id. at pp. 7-8). In addition, the June 2016 CSE recommended the provision of an educational consultant as supports for school personnel on behalf of the student, and further noted in the IEP that "[t]raining will be provided on Autism and Applied Behavior Analysis to staff" (id. at p. 8).[15]

After the June 2016 CSE meeting, the parents continued to correspond with the director about the student's IEP and program via e-mail, including inquiries into whether the new special education teacher hired by the district would also be a Board Certified Behavior Analyst (BCBA), and if so, whether that information would be documented in the student's IEP (see Joint Ex. 1 at pp. 7-20). In addition, the parents forwarded specific language to the director for "proposed management needs," which the parents wanted to be incorporated into the student's IEP (id. at pp. 8-18). The parents also provided the director with information regarding the organization and set up of "comprehensive ABA classrooms at public schools" (id. at pp. 18-20).

A. Due Process Complaint Notice

By due process complaint notice dated August 5, 2016, the parents alleged that after the student attended the district's recommended program in fall 2015, "it became completely clear that [the student] could not take advantage of an education not grounded in the principles of [ABA] [and] more specifically it was unconditionally clear that [the student] needed a comprehensive ABA program in order to make progress" (Joint Ex. 1 at p. 2 [emphasis in original]). Next, the parents described a "number of changes" they observed in the student while he attended the district's recommended program in fall 2015, which the parents characterized as a "steady decline" in the student's communication skills, levels of engagement, and behavior (id. at pp. 2-4). According to the parents, the student only began to make steady progress after his reenrollment in preschool as a general education student in December 2015 through August 2016 (id. at p. 5).

[15] The director sent an e-mail to the parents on June 20, 2016, with an attached document that described the "Connections" program (Joint Ex. 1 at pp. 7-8; see generally Parent Ex. H). The "Connections" program was designed to provide "direct social skill instruction and academic instruction for students with Autism or social delays" (Joint Ex. 1 at p. 8). Kindergarten students received a "full kindergarten program in the mainstream setting, with reteaching, related services, and supplemental instruction in a small class in addition to the regular [half] day kindergarten program" (id.). "Connections" included a "classroom behavior program" with "[b]uilt in sensory breaks" and "[e]arned choice time"; in addition, the "Connections" program incorporated several "[b]est practices . . . in all instruction and support such as visual schedules, visual cues, reduced language demands, tasks broken down into simple step-by-step directives, [and] direct instruction of social skills" (id.). At the impartial hearing, the district entered District Exhibit 50 as a description of the "Connections K-5 Program," which differed from the document forwarded to the parents via e-mail after the June 2016 CSE meeting (compare Dist. Ex. 50, with Joint Ex. 1 at pp. 7-8).

More specifically, the parents attributed the student's progress to the "comprehensive ABA program" offered at the preschool, as well as to their own provision of discrete trial training to the student at home (id.).

Next, the parents incorporated several e-mail communications with the district to illustrate more fully the "rationale and much of the research-backed explanations for why this due process ha[d] become essential" and further, to demonstrate "how the solutions offered by the school district f[ell] short of providing a complete solution to the problem" (Joint Ex. 1 at pp. 5-20). The parents then specified what they hoped to accomplish, namely, that the district "set up a comprehensive integrated [ABA] classroom (preferably an integrated one) and that this be written in the Management Needs Section of [the student's] IEP" (id. at p. 6). Within the e-mail communications with the district, the parents set forth specific language to be included in the management needs section of the student's IEP, as well as specific instructions describing how to set up and organize a comprehensive ABA classroom at the district (id. at pp. 6-20, 23-26). The parents also indicated that despite "months of discussions and requests," the district did not agree to "include the essential elements of what [they] fe[lt] [was] necessary to put in [the student's] IEP" (id. at p. 23). The parents then identified the following as the "most important" elements to include in the student's IEP: "all people with regular (weekly) interaction with [the student] would be trained in both Discrete Trial Training and Function Based Intervention," and the district use an "established Behavioral Analysis Data Collection Platform with templates" for data analysis (id. at pp. 23-26). The parents then indicated that placing "these elements in the IEP" afforded them the opportunity to "hold [the district] [a]ccountable to deliver on [the student's] special education needs" (id. at p. 23). The parents also indicated that, generally, the district responded to their requests to incorporate particular "elements" into the student's IEP with statements that it did not put "ABA terminology into IEP[s]" (id.; see Joint Ex. 1 at p. 7). Next, the parents then included copies of several publications to further explain the "risks associated with having improperly trained staff" (Joint Ex. 1 at pp. 26-50). Moreover, the parents articulated that the student's "success at [the preschool] in an integrated ABA classroom and his success . . . in other settings that include[d] typically developing children" indicated that the district was "trying to force fit an inappropriate restrictive program . . . because [the district] d[id] not presently have an acceptable program or solution" to meet the student's "developmental and behavioral needs" (id. at p. 44).

Finally, as their first proposed solution, the parents requested the following: classify the student as "not being ready for Kindergarten," return the student to the preschool setting as a general education student receiving services for the 2016-17 school year, and provide transportation services similar to the manner they were provided to the student during the 2015-16 school year (Joint Ex. 1 at pp. 50-52). As a second proposed solution, the parents requested that the district "establish an integrated ABA classroom, as modeled after the one provided by [the preschool]," that would meet the specified requirements outlined thereafter (id. at pp. 52-53). For example, the parents indicated that the proposed ABA classroom must offer a full-day program, and that all therapists, special education teachers, and the school principal associated with the proposed classroom must be trained in function based intervention and discrete trial training (id. at p. 52). The parents also required that the "lead teacher" of the proposed ABA classroom must "at a minimum" hold BCBA credentials, and further, that all assistants and therapists receive training in ABA interventions (i.e., function based intervention, discrete trial training, ignore and redirect, data collection and entry into software platforms, and "3-Step Prompting to Achieve Compliance") (id. at pp. 52-23). The parents further proposed that the district acquire "all

necessary items necessary to set up an ABA classroom" and that the district maintain a "minimum budget" available to the classroom to acquire those items (id. at p. 53).[16]

B. Impartial Hearing Officer Decision

On October 5, 2016, the parties proceeded to an impartial hearing, which concluded on October 26, 2016 after five days of proceedings (see Tr. pp. 1-1442).[17] In a decision dated December 30, 2016, the IHO concluded that the district offered the student a FAPE for the 2016-17 school year (see IHO Decision at pp. 10-16).[18] Initially, the IHO found that the parents did not dispute either the student's eligibility category of autism or the June 2016 CSE's recommendation of a general education kindergarten class placement (see IHO Decision at p. 10). The IHO discerned, however, that the parents contested the June 2016 CSE's decision to recommend a 12:1 special class placement ("Connections"), and they preferred that the student attend a "[morning] and [afternoon] kindergarten program with special education services [ABA]" (id.). After reciting the present levels of performance describing the student in the June 2016 IEP and the applicable legal standards, the IHO found no procedural violations committed by the district (id. at pp. 10-13). The IHO noted that the parents attended all CPSE and CSE meetings, they had the opportunity to participate in the decision-making process, and they contributed to the development of the student's IEP (id. at p. 13). Additionally, the IHO indicated that the parents "influenced the CSE in adding an ABA specialist to provide training and support to the Connections program" (id.). Upon review of the information provided to the CSE to develop the June 2016 IEP, the IHO found that the recommendations of a "general education kindergarten and the Connections program" provided the student with "personalized instruction with sufficient support services to benefit educationally from that instruction," which satisfied both the "Rowley requirement" and the "least restrictive requirement [LRE] of IDEA" (id. at p. 14).

Next, the IHO determined that the June 2016 IEP was "likely to produce progress, not regression and afford[ed] the student with an opportunity for greater than trivial advancement" (IHO Decision at pp. 14-15). In particular, the IHO found that the student would receive "specialized instruction in the Connections program," and considering the student's "short attention span and distractibility," the "Connections program" would also provide the student with the "best environment for direct instruction" in mathematics, reading, and writing (id. at p. 15). In addition, the IHO indicated that the district would implement discrete trial training with the student's annual goals as the "focal point" and that "ABA techniques would be utilized in the classroom as well as strategies from the National Autism Center" (id.). The IHO also indicated that the parents'

[16] In August 2016, the district contracted with a BCBA to provide the education consult services recommended in the June 2016 IEP (see Tr. pp. 325-38; Dist. Ex. 45 at p. 8). On September 10, 2016, the BCBA visited the district's recommended placement for the student for the 2016-17 school year and drafted a "Consult Report" with detailed recommendations for the student's program (see generally Dist. Ex. 49).

[17] At the time of the impartial hearing, the student was not enrolled in either a public or nonpublic school; rather, the parents provided "home schooling" to the student for approximately five hours per day during the week and eight to nine hours per day on weekends, and the student attended "daycare" for approximately four hours per day (Tr. pp. 20-22).

[18] The cover page of the IHO's decision reflected a date of "December 30, 2016"; however, it appears that the IHO mistakenly dated the final page of the decision as "December 30, 2015" (compare IHO Decision at p. 1, with IHO Decision at p. 17).

"concerns with the use of ABA in the classroom should be alleviated by the use of an ABA specialist" with "BCBA credentials," and by the district special education teacher's certification in discrete trial training (id.). After noting that the student's "greatest gains" in preschool occurred in the areas of pragmatic speech and social skills, the IHO indicated that the annual goals in the June 2016 IEP were "'reasonably calculated' to produce progress," as they related to, and addressed, the student's needs (id.). The IHO further indicated that the student must receive "[p]ersonalized instruction . . . to address his articulation, receptive and expressive deficits," and the student would receive speech-language therapy services in both the "therapy room and in his classroom" (id.). With regard to social skills, the IHO noted that the "speech therapist" took part in the social skills training program offered to the student as part of the "Connections program" (id.). Additionally, the IHO pointed out that the social skills training focused on "feelings, coping skills and social problem solving," and the student had needs in all of these areas (id.). Finally, turning to OT, the IHO found that such services were necessary to address the student's "fine and gross motor deficits," which affected the student's "writing skills and activities involving gross motor skills" (id. at p. 16).

As for the parents' requested relief, the IHO first acknowledged that the student was "now of compulsory school age," and his parents decided to provide the student with home schooling (IHO Decision at p. 16). The IHO then recognized that, based upon the evidence in the hearing record, the preschool was "not licensed to offer a school age program"; therefore, the parents' request for the student to continue at the preschool was not an "option" to be considered (id.). With respect to the parents' second request—that is, for the district to "replicate the [preschool] program" within the public school—the IHO found that the CSE "integrated man[y] of the requests into the kindergarten and Connections program" (id.). Consequently, since the district's IEP was not required to "'maximize' the potential of students," the IHO concluded that the June 2016 IEP was appropriate and likely to produce progress (id.).

Finally, the IHO conveyed that while "much of the parents' testimony and argument focused on ABA as being the only method to instruct their son, there [was] strong judicial authority in support of the legal proposition that IDEA d[id] not guarantee a right to a particular methodology or personnel" (IHO Decision at p. 16). As such, these matters were "appropriately left within the discretion of the local school authorities provided the method selected provide[d] FAPE" (id.). Having dismissed the parents' complaint, the IHO ordered that, "should the parents choose not to appeal this decision," the district and the parents should "develop a plan with the necessary supports to allow for the [student's] smooth transition to the program as outline[d] in the IEP" (id. at p. 17).

IV. Appeal for State-Level Review

The parents appeal. Initially, the parents allege that the IHO's decision was biased, and further assert that the IHO improperly precluded evidence and limited all questioning of witnesses at the impartial hearing.[19] Turning to the IHO's decision, the parents point to inaccuracies in the "Preliminary Statement," the "Prior History," and within the "Discussion and Decision" sections, and contend that the hearing record should not have included a behavior progress chart as evidence.

[19] The parents submitted additional documentary evidence with the request for review for consideration on appeal (see generally Req. for Rev. Exs. A-Z; AA-ZZ; AAA-ZZZ; AAAA-IIII).

With respect to the findings and facts portion of the IHO's decision, the parents allege that the IHO failed to correctly identify the issues in dispute, noting specifically that they disputed the June 2016 CSE's decision to recommend a general education kindergarten classroom for the student. Next, the parents challenge the accuracy of the present levels of performance in the June 2016 IEP, the management needs identified in the IEP, and the appropriateness of the annual goals in the IEP. The parents also argue that, contrary to the IHO's decision, "many" procedural errors impeded the student's right to a FAPE, and the district declined to incorporate their request for an "all day ABA integrated environment" into the student's IEP. The parents further allege that the "Connections program and kindergarten" did not satisfy either the FAPE requirement or the LRE requirement, as the student had succeeded in an "all-day integrated setting."

Next, the parents fault the IHO for failing to address how the teachers in this case had the "necessary training or record of success" in order to implement a "curriculum" with the student. In addition, the parents allege that although the IHO discussed how "typical peers in the general education class would demonstrate appropriate behavior," the hearing record lacked any information about "how appropriate" those typical peers would be "for a[n] integrated class." The parents noted that the student required a "5-hour integrated school day." Finally, the parents assert that the IHO failed to address or acknowledge their request for reimbursement for providing ABA behavioral therapy and instruction to the student, equitable considerations, their request to "observe [the student] receiving education in real time," or the parents' testimony that called into question information provided to them by a teacher.

As relief, the parents seek, in part, an order directing the district to modify the management needs section of the student's IEP and to place discrete trial training and ABA group therapy—as specifically delineated in the request for review—in the student's IEP. With regard to the management needs, the parents seek an order directing that the student receive "intensive ABA" for 40 hours per week in a district elementary school and that the student continue to receive these services until he achieves a particular standard score on identified assessments. Next, the parents precisely describe the composition and size of the integrated classroom desired for the student, including the number of typically developing peers and the "specific guidelines" the typically developing peers must meet in order to be included within the proposed integrated classroom. In addition, the parents request an order to fund a budget to be used by the classroom for modifications to deliver the "integrated intensive ABA program." With respect to the proposed integrated classroom, the parents indicate that for the remainder of the 2016-17 school year, the "kindergarten classroom may have two different groups of typical peers" for the morning and afternoon sessions; however, for the 2017-18 school year, the parents seek a "single group of typical peers that meets for the entire school period" in the proposed integrated classroom. Next, the parents seek an order directing that "every teacher, aid, therapist, professional . . . assigned to work in the same classroom as [the student] or directly with [the student] . . . should be at 1 [standard deviation] above average in articulation and expressive language as estimated by a speech therapist and that they have no documented nor previously documented behavioral disorder of any kind."

The parents also seek an order finding that the annual goals in the student's IEP were not appropriate and constituted a procedural violation that impeded the student's right to a FAPE, significantly impeded the parents' opportunity to participate in the decision-making process, and caused a deprivation of educational benefits. As further relief, the parents seek an order accepting

all of the additional evidence submitted with the request for review, removing specific district exhibits from the evidence in the hearing record, and to find that the due process complaint notice was "officially filed" on August 5, 2016. The parents also seek an order allowing them to have "access to observe" the student in class, during discrete trial training, and in group therapy sessions with other students upon request. Next, the parents request a central auditory processing evaluation of the student at "public" expense, as well as an independent educational evaluation (IEE) of the student's "present levels of performance" that includes a formal intelligence quotient (IQ) test, an adaptive behavior test, and a "present level curriculum test." As a result of these assessments, the parents also request a modification of the annual goals. The parents also request an order directing the use of "formal measures" to assess "IEP success."

With regard to the program recommended in the June 2016 IEP, the parents seek an order finding that the "Kindergarten and Connections Program" did not meet the requirements of FAPE or the LRE. In addition, the parents seek an order declaring that the district's 2 hour 40 minute school day does not constitute a FAPE, and further, that the "Connections" program is not peer-reviewed. And finally, the parents request to "approve pendency for [the parents] to deliver an ABA [] home based therapy and educational program" to the student at $32.50 per hour for 50 hours per week at district expense. Alternatively, the parents request that if the ABA therapy and educational program delivered to the student by his parents constitutes a "unilateral placement," then they seek retroactive reimbursement at the same rate described above. Additionally, the parents note that the IHO failed to issue a pendency decision, and therefore, they seek an order directing the district to reimburse them "immediately [within 72 hours of decision]" for the ABA therapy and educational program they delivered to the student since August 29, 2016 (totaling 950 hours at $32.50 per hour). The parents also seek to be reimbursed for the continued delivery of home-based ABA therapy and an educational program to the student (approximately 2300 hours) "until the ordered program is successfully in place" at the district, as well as an award of fees and expenses as the prevailing party.

In an answer, the district responds to the parents' allegations. The district asserts as an affirmative defense that the parents did not raise any issues in the due process complaint notice concerning the present levels of performance or the annual goals in the IEP, or with respect to any procedural violations, and therefore, the parents cannot now raise such allegations on appeal and the allegations must be wholly disregarded. Next, the district asserts as affirmative defenses that the parents' request for review and memorandum of law fail to conform to practice regulations, and finally, that the parents' request to submit additional documentary evidence for consideration on appeal must be rejected because the parents failed to articulate any reason for its submission. Turning to the question of the student's pendency placement, the district alleges that the special education programs and related services in District Exhibit 33—generated as a result of a resolution agreement between the parties—constitutes the student's last agreed upon IEP and pendency placement. In its memorandum of law accompanying the answer, the district generally argues to uphold the IHO's decision in its entirety.[20]

[20] The parents did not file a reply with the Office of State Review in response to the district's answer (see 8 NYCRR 279.6[a]-[b]).

V. Applicable Standards

Two purposes of the IDEA (20 U.S.C. §§ 1400-1482) are (1) to ensure that students with disabilities have available to them a FAPE that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living; and (2) to ensure that the rights of students with disabilities and parents of such students are protected (20 U.S.C. § 1400[d][1][A]-[B]; see generally Forest Grove Sch. Dist. v. T.A., 557 U.S. 230, 239 [2009]; Bd. of Educ. v. Rowley, 458 U.S. 176, 180-83, 206-07 [1982]).

A FAPE is offered to a student when (a) the board of education complies with the procedural requirements set forth in the IDEA, and (b) the IEP developed by its CSE through the IDEA's procedures is reasonably calculated to enable the student to receive educational benefits (Rowley, 458 U.S. at 206-07; R.E. v. New York City Dep't of Educ., 694 F.3d 167, 189-90 [2d Cir. 2012]; M.H. v. New York City Dep't of Educ., 685 F.3d 217, 245 [2d Cir. 2012]; Cerra v. Pawling Cent. Sch. Dist., 427 F.3d 186, 192 [2d Cir. 2005]). "'[A]dequate compliance with the procedures prescribed would in most cases assure much if not all of what Congress wished in the way of substantive content in an IEP'" (Walczak v. Florida Union Free Sch. Dist., 142 F.3d 119, 129 [2d Cir. 1998], quoting Rowley, 458 U.S. at 206; see T.P. v. Mamaroneck Union Free Sch. Dist., 554 F.3d 247, 253 [2d Cir. 2009]). While the Second Circuit has emphasized that school districts must comply with the checklist of procedures for developing a student's IEP and indicated that "[m]ultiple procedural violations may cumulatively result in the denial of a FAPE even if the violations considered individually do not" (R.E., 694 F.3d at 190-91), the Court has also explained that not all procedural errors render an IEP legally inadequate under the IDEA (M.H., 685 F.3d at 245; A.C. v. Bd. of Educ., 553 F.3d 165, 172 [2d Cir. 2009]; Grim v. Rhinebeck Cent. Sch. Dist., 346 F.3d 377, 381 [2d Cir. 2003]). Under the IDEA, if procedural violations are alleged, an administrative officer may find that a student did not receive a FAPE only if the procedural inadequacies (a) impeded the student's right to a FAPE, (b) significantly impeded the parents' opportunity to participate in the decision-making process regarding the provision of a FAPE to the student, or (c) caused a deprivation of educational benefits (20 U.S.C. § 1415[f][3][E][ii]; 34 CFR 300.513[a][2]; 8 NYCRR 200.5[j][4][ii]; Winkelman v. Parma City Sch. Dist., 550 U.S. 516, 525-26 [2007]; R.E., 694 F.3d at 190; M.H., 685 F.3d at 245).

The IDEA directs that, in general, an IHO's decision must be made on substantive grounds based on a determination of whether the student received a FAPE (20 U.S.C. § 1415[f][3][E][i]). A school district offers a FAPE "by providing personalized instruction with sufficient support services to permit the child to benefit educationally from that instruction" (Rowley, 458 U.S. at 203). However, the "IDEA does not itself articulate any specific level of educational benefits that must be provided through an IEP" (Walczak, 142 F.3d at 130; see Rowley, 458 U.S. at 189). The statute ensures an "appropriate" education, "not one that provides everything that might be thought desirable by loving parents" (Walczak, 142 F.3d at 132, quoting Tucker v. Bay Shore Union Free Sch. Dist., 873 F.2d 563, 567 [2d Cir. 1989] [citations omitted]; see Grim, 346 F.3d at 379). Additionally, school districts are not required to "maximize" the potential of students with disabilities (Rowley, 458 U.S. at 189, 199; Grim, 346 F.3d at 379; Walczak, 142 F.3d at 132). Nonetheless, a school district must provide "an IEP that is 'likely to produce progress, not regression,' and . . . affords the student with an opportunity greater than mere 'trivial advancement'" (Cerra, 427 F.3d at 195, quoting Walczak, 142 F.3d at 130 [citations omitted]; see T.P., 554 F.3d at 254; P. v. Newington Bd. of Educ., 546 F.3d 111, 118-19 [2d Cir. 2008]). The IEP must be

"reasonably calculated to provide some 'meaningful' benefit" (Mrs. B. v. Milford Bd. of Educ., 103 F.3d 1114, 1120 [2d Cir. 1997]; see Endrew F. v. Douglas County Sch. Dist. RE-1, 580 U.S. __, 2017 WL 1066260, at *11-*12 [Mar. 22, 2017] [holding that the IDEA "requires an educational program reasonably calculated to enable a child to make progress appropriate in light of the child's circumstances"]; Rowley, 458 U.S. at 192). The student's recommended program must also be provided in the LRE (20 U.S.C. § 1412[a][5][A]; 34 CFR 300.114[a][2][i], 300.116[a][2]; 8 NYCRR 200.1[cc], 200.6[a][1]; see Newington, 546 F.3d at 114; Gagliardo v. Arlington Cent. Sch. Dist., 489 F.3d 105, 108 [2d Cir. 2007]; Walczak, 142 F.3d at 132]).

An appropriate educational program begins with an IEP that includes a statement of the student's present levels of academic achievement and functional performance (see 34 CFR 300.320[a][1]; 8 NYCRR 200.4[d][2][i]), establishes annual goals designed to meet the student's needs resulting from the student's disability and enable him or her to make progress in the general education curriculum (see 34 CFR 300.320[a][2][i], [2][i][A]; 8 NYCRR 200.4[d][2][iii]), and provides for the use of appropriate special education services (see 34 CFR 300.320[a][4]; 8 NYCRR 200.4[d][2][v]).

The burden of proof is on the school district during an impartial hearing, except that a parent seeking tuition reimbursement for a unilateral placement has the burden of proof regarding the appropriateness of such placement (Educ. Law § 4404[1][c]; see R.E., 694 F.3d at 184-85).

VI. Discussion

A. Preliminary Matters

1. IHO Bias and Conduct of the Impartial Hearing

First, the parents assert that the IHO's decision was biased and "one sided in its entirety." The parents further assert that the IHO's refusal to "accept nearly all" of their proffered exhibits as evidence at the impartial hearing precluded the IHO from considering the same in the decision and similarly precluded the parents from using the exhibits to question witnesses and to inform their briefs. Additionally, the parents contend that the IHO "significantly limited all questions to witnesses to be specific to [the student] or a class [the student] was a part of," which ultimately prevented the parents from obtaining "more details regarding many different matters" during the impartial hearing. In response, the district argues that many of the parents' exhibits offered at the impartial hearing consisted primarily of "articles written for various publications not related to the [s]tudent herein," and thus, the IHO properly excluded such evidence as irrelevant, immaterial, unreliable, or unduly repetitious. Moreover, the district acknowledges that although the IHO limited questions "to some extent" at the impartial hearing, the IHO's limitations focused the questions as "relevant to the [s]tudent and the issues presented." Upon a careful and complete review of the hearing record, neither the IHO's management of the impartial due process hearing

nor his decision manifested bias or prejudice against—or in favor of—either party. Therefore, the parents' contentions must be dismissed.[21]

It is well settled that an IHO must be fair and impartial and must avoid even the appearance of impropriety or prejudice (see, e.g., Application of a Student with a Disability, Appeal No. 12-066; Application of a Student with a Disability, Appeal No. 11-144; Application of the Bd. of Educ., Appeal No. 10-097; Application of a Student with a Disability, Appeal No. 10-018). An IHO must also render a decision based on the hearing record (see Application of a Student with a Disability, Appeal No. 09-058; Application of a Student with a Disability, Appeal No. 08-036). Moreover, an IHO, like a judge, must be patient, dignified and courteous in dealings with litigants and others with whom the IHO interacts in an official capacity and must perform all duties without bias or prejudice against or in favor of any person, and shall not, by words or conduct, manifest bias or prejudice, according each party the right to be heard (Application of a Student with a Disability, Appeal No. 12-064; Application of a Student with a Disability, Appeal No. 07-090; Application of a Student with a Disability, Appeal No. 07-075; see Y.A. v. N.Y. City Dep't of Educ., No. 2016 WL 5811843, at *19 [S.D.N.Y. Sept. 21, 2016]; J.E. & C.E. v. Chappaqua Cent. Sch. Dist., 2016 WL 3636677, at *8 [S.D.N.Y. June 28, 2016]).

Here, the parents—as the party bearing the burden to provide evidence with respect to the IHO's alleged bias—level nothing more than bald, conclusory assertions without any explanation to support those assertions. The parents do not cite to or point to any specific instances in the hearing record as evidence of how the IHO's discretion to preclude evidence constituted bias or how the IHO's actions interfered with their ability to present their case. Instead, the parents cite generally to the transcript corresponding to their proffer of exhibits at the impartial hearing (see Req. for Rev. ¶ 1). Moreover, while impartial hearing rights include the right of both a parent and a district to "[p]resent evidence and confront, cross-examine, and compel the attendance of witnesses" (34 CFR 300.512[a][2]; see 8 NYCRR 200.5[j][3][xii]), State regulation requires that an IHO "exclude evidence that he or she determines to be irrelevant, immaterial, unreliable or unduly repetitious" (8 NYCRR 200.5[j][3][xii][c]). Consistent with State regulation, a review of the transcript cited by the parents reveals that the parents presented each and every exhibit for the IHO's consideration, that in many instances the district's attorney voiced objections to the exhibits, and the IHO explained the rationale underlying his decision to ultimately sustain the district's objections to preclude the parents' evidence (see Tr. pp. 56-108). A review of the same portions of the transcript also reveals that the IHO made considerable efforts to assist the parents throughout their evidentiary submissions by explaining the role of evidence and by indicating that, subject to a proper foundation elicited from a witness, some of the parents' evidence (i.e., articles or publications) might then be entered in the hearing record as evidence (see, e.g., Tr. pp. 56-60, 64-67, 71-72, 92, 97-98).

[21] To the extent that the parents also assert inaccuracies within the IHO's decision, these contentions generally reflect a disagreement with the IHO's characterizations and do not present issues regarding the accuracy of the decision. For example, in the "Preliminary Statement" the IHO indicated that the student "benefit[ted]" from an ABA environment; the parents assert in the request for review that this statement is inaccurate because the student "significantly" benefitted from an "integrated intensive ABA environment" (compare IHO Decision at p. 2, with Req. for Rev. ¶ 2).

With regard to the IHO's decision to limit questions of witnesses, the parents do not cite to or point to any specific instances in the hearing record as evidence of how the IHO's actions constituted bias or how the IHO's actions interfered with their ability to present their case. Rather, the parents cite to nearly the entire transcript to support their assertion (see Req. for Rev. ¶ 2). Like above, State regulation specifically empowers an IHO with the discretion to "limit examination of a witness by either party whose testimony the [IHO] determines to be irrelevant, immaterial or unduly repetitious" (8 NYCRR 200.5[j][3][xii][d]). State regulation also authorizes an IHO "to ask questions of counsel or witnesses for the purpose of clarification or completeness of the record" (8 NYCRR 200.2[j][3[vii]). Consistent with State regulations, on review—and as acknowledged by the district—the impartial hearing transcript does reveal that, at times, the IHO narrowed or circumscribed questions asked by the parents during the direct or cross-examination of witnesses to focus specifically on the student or the student's program at the heart of this dispute (see, e.g., Tr. pp. 175-77, 269, 273, 286-87, 291, 294-96, 372-75, 496-97, 512-13). The impartial hearing transcript also reveals that the IHO assisted the parents throughout the questioning of witnesses, which either clarified questions posed to the witnesses or assisted in the completeness of the hearing record (see, e.g., Tr. pp. 141-43, 147-48, 150, 192-95, 292-93, 372, 387-89, 514-15).

Thus, while the parents may not be in agreement with the IHO's decision and may have the opinion that the IHO improperly precluded evidence or limited questioning of witnesses that the parents deemed to be persuasive and relevant, this, alone, does not establish that the IHO manifested a bias or improperly exercised his discretion in conducting the impartial due process hearing. Overall, an independent review of the hearing record demonstrates that the parents had the opportunity to present their case at the impartial hearing and that the impartial hearing was conducted in a manner consistent with the requirements of due process (see Educ. Law § 4404[2]; 34 CFR 300.514[b][2][i], [ii]; 8 NYCRR 200.5[j]; see generally Tr. pp. 1-1442).

2. Scope of Impartial Hearing and Review

Next, a determination must be made regarding which claims are properly before me on appeal. On appeal, the parents challenge the accuracy of the present levels of performance in the June 2016 IEP and the appropriateness of the annual goals in the IEP. The parents further allege that, contrary to the IHO's decision, "many" procedural errors impeded the student's right to a FAPE. In response, the district asserts that the parents' failure to raise these issues in the due process complaint notice precludes the parents from raising such allegations on appeal.

Generally, the party requesting an impartial hearing has the first opportunity to identify the range of issues to be addressed at the hearing (see 20 U.S.C. § 1415[b][7][A]; 34 CFR 300.507[a]-[b], 300.508[a]; 8 NYCRR 200.5[j][1]; Application of a Student with a Disability, Appeal No. 13-151; Application of a Student with a Disability, Appeal No. 09-141). However, a party requesting an impartial hearing may not raise issues at the impartial hearing that were not raised in its due process complaint notice unless the other party agrees (20 U.S.C. § 1415[f][3][B]; 34 CFR 300.508[d][3][i], 300.511[d]; 8 NYCRR 200.5[j][1][ii]), or the original due process complaint is amended prior to the impartial hearing per permission given by the IHO at least five days prior to the impartial hearing (20 U.S.C. § 1415[c][2][E][i][II]; 34 CFR 300.508[d][3][ii]; 8 NYCRR 200.5[i][7][b]; see, e.g., N.K. v. New York City Dep't of Educ., 961 F. Supp. 2d 577, 584-86 [S.D.N.Y. 2013]; J.C.S. v Blind Brook-Rye Union Free Sch. Dist., 2013 WL 3975942, at *8-*9

[S.D.N.Y. Aug. 5, 2013]; B.M. v. New York City Dep't of Educ., 2013 WL 1972144, at *6 [S.D.N.Y. May 14, 2013]; C.H. v. Goshen Cent. Sch. Dist., 2013 WL 1285387, at *9 [S.D.N.Y. Mar. 28, 2013]; S.M. v. Taconic Hills Cent. Sch. Dist., 2013 WL 773098, at *4 [N.D.N.Y. Feb. 28, 2013]; DiRocco v. Bd. of Educ., 2013 WL 25959, at *23 [S.D.N.Y. Jan. 2, 2013]).

In this instance, the parents—as the party requesting the impartial hearing—had the first opportunity to identify the range of issues to be addressed at the impartial hearing. Upon review, I find that the parents' due process complaint notice cannot reasonably be read to include the accuracy of the present levels of performance or whether the district committed any procedural violations as issues to be resolved at the impartial hearing (see generally Joint Ex. 1). Moreover, a review of the hearing record shows that the district did not agree to expand the scope of the impartial hearing, and the parents did not amend the due process complaint notice or seek permission from the IHO to amend the due process complaint notice prior to the impartial hearing to include the accuracy of the present levels of performance or whether the district committed any procedural violations as issues to be resolved at the impartial hearing (see Tr. pp. 1-1442; Dist. Exs. 2-9; 11-51; Parent Exs. H; JJ; M-N; IHO Exs. 3-7; Joint Exs. 1; 10). In contrast, however, I find that the due process complaint notice can reasonably be read to include an issue regarding the annual goals in the June 2016 IEP (see Joint Ex. 1 at pp. 12-13).[22]

Turning to the issues addressed in the IHO's decision, the IHO initially included brief descriptions of the present levels of performance, the management needs, and the annual goals from the June 2016 IEP within the "Findings and Facts" section of the decision (compare IHO Decision at pp. 10-11, with Dist. Ex. 45 at pp. 3-6). However, those portions of the decision were contextual only and the IHO did not actually make any findings or conclusions about the accuracy of the present levels of performance anywhere within the decision (compare IHO Decision at pp. 10-11, with IHO Decision at pp. 10-16). Therefore, since the parents did not raise any issue about the present levels of performance in the due process complaint notice and the IHO did not make any findings related to the present levels of performance in the June 2016 IEP, the parents cannot now raise this as an issue to be resolved in the request for review for the first time on appeal (compare Req. for Rev. ¶¶ 11-12, 14, 21, with Joint Ex. 1 at pp. 1-54, and IHO Decision at pp. 1-17). Where, as here, the parents did not seek the district's agreement to expand the scope of the impartial hearing to include this issue or seek to include this issue in an amended due process complaint notice, the issue is not properly subject to review. To hold otherwise would inhibit the development of the hearing record for the IHO's consideration, and render the IDEA's statutory and regulatory provisions meaningless (see 20 U.S.C. § 1415[f][3][B]; 34 CFR 300.511[d], 300.508[d][3][i]; 8 NYCRR 200.5[j][1][ii]; see also B.P. v. New York City Dep't of Educ., 841 F. Supp. 2d 605, 611 [E.D.N.Y. 2012] [explaining that "[t]he scope of the inquiry of the IHO, and therefore the SRO . . . , is limited to matters either raised in the . . . impartial hearing request or agreed to by [the opposing party]]"); M.R. v. S. Orangetown Cent. Sch. Dist., 2011 WL 6307563,

[22] With respect to the annual goals, the parents can and do point to a specific portion of the due process complaint notice as a basis for concluding that they raised annual goals as an issue to be resolved at the impartial hearing (see Parent Mem. of Law at p. 24 [citing Joint Ex. 1 at p. 12]; see also Req. for Rev. ¶¶ 16). However, the parents do not (and a reasonable person cannot) point to any specific portions of the due process complaint notice as a basis for concluding that the parents raised either the present levels of performance or procedural violations as issues to be resolved at the impartial hearing in either the request for review or within the memorandum of law (see generally Req. for Rev.; Parent Mem. of Law).

at *13 [S.D.N.Y. Dec. 16, 2011]). "By requiring parties to raise all issues at the lowest administrative level, IDEA affords full exploration of technical educational issues, furthers development of a complete factual record and promotes judicial efficiency by giving these agencies the first opportunity to correct shortcomings in their educational programs for disabled children" (R.B. v. Dep't of Educ., 2011 WL 4375694, at *6-*7 [S.D.N.Y. Sept. 16, 2011] [internal quotations omitted]; see C.D. v. Bedford Cent. Sch. Dist., 2011 WL 4914722, at *13 [S.D.N.Y. Sept. 22, 2011] [holding that a transportation issue was not properly preserved for review by the SRO because it was not raised in the party's due process complaint notice]). Consequently, the allegations pertaining to the present levels of performance in the June 2016 IEP raised now, for the first time by the parents on appeal, are outside the scope of my review, and therefore, these allegations will not be considered (see N.K., 961 F. Supp. 2d at 584-86; B.M., 2013 WL 1972144, at *6; C.H., 2013 WL 1285387, at *9; Snyder v. Montgomery County Pub. Schs., 2009 WL 3246579, at *7 [D. Md. Sept. 29, 2009]).[23]

With respect to the annual goals, as noted above, I find that the parents did raise this as an issue in the due process complaint notice, which the IHO addressed (see Joint Ex. 1 at p. 12; IHO Decision at p. 15). In the decision, the IHO concluded that the annual goals were "related to [the student's] needs and address[ed] them specifically" and that the annual goals were "'reasonably calculated' to produce progress" (IHO Decision at pp. 11, 15). The parents' challenge to the IHO's finding about the annual goals will, therefore, be addressed, and this will necessitate some discussion of the procedures by which the goals were developed.

Finally, in addition to rendering a determination about the annual goals, the IHO also found that the district did not commit any procedural violations and that the parents had "ongoing 'opportunities to participate in the decision making process regarding the provision of a FAPE' for their child" (IHO Decision at p. 13). Since the IHO drew conclusions on these issues notwithstanding the fact that the parents' due process complaint notice cannot reasonably be read to include these issues, the next inquiry focuses on whether the IHO properly reached determinations on the issues because the district "open[ed] the door" under the holding of M.H. v. New York City Dep't of Educ. (685 F.3d 217, 250-51 [2d Cir. 2012]; see also D.B. v. New York City Dep't of Educ., 966 F. Supp. 2d 315, 327-28 [S.D.N.Y. 2013]; N.K., 961 F. Supp. 2d at 584-86; A.M. v. New York City Dep't of Educ., 964 F. Supp. 2d 270, 282-84 [S.D.N.Y. 2013]; J.C.S., 2013 WL 3975942, *9; B.M., 2013 WL 1972144, at *5-*6).

Scrutinizing the hearing record, it does not appear that the IHO conducted a prehearing conference, but on the first day of the impartial hearing the IHO inquired about the basis for the parents' due process complaint notice (see Tr. p. 5).[24] During this colloquy, neither party identified

[23] To be clear, any additional arguments the parents asserted in the memorandum of law about the present levels of performance will also not be considered, including the argument that the student requires a central auditory processing disorder assessment at district expense (i.e., an independent educational evaluation or IEE) in order to determine the student's present levels of performance upon which to develop appropriate annual goals (see Parent Mem. of Law at pp. 24-28).

[24] While not mandatory, State regulation authorizes an IHO to conduct a prehearing conference with the parties for, in pertinent part, the purpose of "simplifying or clarifying the issues" to be resolved (8 NYCRR 200.5[j][3][xi]).

any procedural issues to be resolved at the impartial hearing; similarly, neither party identified any procedural issues in their respective opening statements, other than a general statement made by the district's attorney indicating that the "IEP was developed in conjunction with the parents" (see Tr. pp. 5, 15-20).

In their list of issues on appeal, the parents do not specify in their request for review what procedural violations occurred that they allege impeded the student's right to a FAPE (see Req. for Rev. ¶ 17).[25] Instead, the parents allege in the memorandum of law a list of factors that they characterize as "procedural violations" impeding the student's right to a FAPE, and in support of each factor, the parents primarily cite to testimonial evidence elicited either through cross-examination of district witnesses or direct examination of their own witnesses at the impartial hearing (see Parent Mem. of Law at p. 28). Such testimonial evidence elicited by the parents in no way constitutes the district "open[ing] the door" to these issues under M.H. Consequently, however correct or incorrect the IHO's findings may have been, the only conclusion that may be permissibly drawn is that the IHO exceeded his jurisdiction by sua sponte raising and concluding that the district did not commit any procedural violations in the development of the June 2016 IEP, and accordingly, the IHO's finding must be annulled.[26]

3. Additional Evidence

Tethered closely to the argument pertaining to IHO's refusal to enter evidence in the hearing record, the parents submit additional documentary evidence for consideration on appeal (see generally Req. for Rev. Exs. A-Z; AA-ZZ; AAA-ZZZ; AAAA-IIII). The district objects to the consideration of the parents' additional documentary evidence, arguing, as above, that the IHO properly excluded such evidence at the impartial hearing as irrelevant, immaterial, unreliable, or unduly repetitious. The district further argues that the parents do not now assert any reason for its consideration on appeal.

Generally, documentary evidence not presented at an impartial hearing may be considered in an appeal from an IHO's decision only if such additional evidence could not have been offered at the time of the impartial hearing and the evidence is necessary in order to render a decision (see, e.g., Application of a Student with a Disability, Appeal No. 08-030; Application of a Student with a Disability, Appeal No. 08-003; see also 8 NYCRR 279.10[b]; L.K. v. Ne. Sch. Dist., 932 F. Supp. 2d 467, 488-89 [S.D.N.Y. 2013] [holding that additional evidence is necessary only if, without such evidence, the SRO is unable to render a decision]). In this case, the parents have resubmitted all of the documentary evidence the IHO declined to enter into the hearing record as

[25] As noted above, however, some discussion of the goal development procedures is necessary due to the parents' challenges to the adequacy of the annual goals.

[26] It is essential that the IHO disclose his or her intention to reach an issue which the parties have not raised as a matter of basic fairness and due process of law (see John M. v. Bd. of Educ., 502 F.3d 708 [7th Cir. 2007]). Although an IHO has the authority to ask questions of counsel or witnesses for the purposes of clarification or completeness of the hearing record (8 NYCRR 200.5[j][3][vii]), or even inquire as to whether the parties agree that an issue should be addressed, it is impermissible for the IHO to simply expand the scope of the issues raised without the express consent of the parties and then base his or her determination on those issues (see Dep't of Educ. v. C.B., 2012 WL 220517, at *7-*8 [D. Haw. Jan. 24, 2012] [finding that the administrative hearing officer improperly considered an issue beyond the scope of the parents' due process complaint notice]).

evidence, as well as copies of documents the IHO already entered into the hearing record as evidence or that were otherwise withdrawn at the impartial hearing (compare Req. for Rev. Exs. A-Z; AA-WW, with Tr. pp. 56-108, 264). As these documents were available at the time of the impartial hearing, the parents had the opportunity to present the documents for the IHO's consideration at that time, and as the IHO—as noted above—did not abuse his discretion in declining to enter such documents as evidence in the hearing record, I decline to exercise my discretion to now admit such documents as evidence as they are also not necessary to render a decision in this matter. Next, some of the parents' additional documentary evidence is already part of the administrative hearing record, such as the "Parents' Brief" submitted to the IHO, the "Parents' Reply Brief," and the "Parents' Memorandum of Law" submitted to the SRO; consequently, I decline to exercise my discretion to now admit the parents' duplicative documents as evidence in the hearing record (see Req. for Rev. Exs. YY; RRR; IIII).

With regard to the remaining additional documentary evidence, approximately 19 of the documents are copies of court cases or SRO decisions, all of which were available at the time of the impartial hearing but not offered for the IHO's consideration (see Req. for Rev. Exs. ZZ; AAA-III; TTT; WWW-ZZZ; AAAA; FFFF-HHHH). Legal authority, whether binding or persuasive, is not evidence and need not be included in a hearing record to establish facts in an evidentiary record.[27] Next, the parents' additional documentary evidence includes a copy of a letter from a physician (dated September 28, 2016), a 2015-16 preschool update report, and copies of various publications, which based upon the respective dates of publication, were available at the time of the impartial hearing but not offered for the IHO's consideration (see Req. for Rev. Exs. XX; VVV; BBBB-EEEE). In addition, the parents submit approximately six documents that are compilations of documents that the parents submitted separately for consideration on appeal, which the IHO already declined to enter as evidence in the hearing record and which I have also declined to enter as evidence in the hearing record (see Req. for Rev. Exs. KKK-PPP). Therefore, I decline to exercise my discretion to admit the court cases, SRO cases, the physician's letter, the 2015-16 preschool update report, the publications, and the compilations of publications as evidence in the hearing record.

Finally, the parents offer two documents that, based upon the reported dates, were not available at the time of the impartial hearing (or the June 2016 CSE meeting for that matter), as well as an undated document describing the "Scerts Model" that is not at issue in this proceeding, and an undated "Calendar" (the probative value and context of which is unclear) for consideration on appeal (see Req. for Rev. Exs. JJJ; QQQ; SSS; UUU).[28] Although these proffered documents may not have been available at the time of the impartial hearing, the parents offer no rationale as to why the documents are now necessary to consider to render a decision in this matter;

[27] This distinction does not preclude an IHO, when necessary, from directing parties to submit copies of cases that they are relying on to the IHO. Such directives stem from an IHO's need for hearing efficiency and compliance with strict timelines.

[28] The progress during a period post-dating both the June 2016 CSE meeting and the filing of the due process complaint notice is irrelevant to a prospective determination of whether the goals were appropriate to meet the student's needs as of the time they were developed.

consequently, I decline to exercise my discretion to enter these documents as evidence in the hearing record or consider the same on appeal.

B. June 2016 IEP

1. Annual Goals

The parents argue that the annual goals in the June 2016 IEP were not appropriate because the student had "substantially surpassed" all of the annual goals listed in the IEP before they were written. In addition, the parents contend that the June 2016 CSE ignored their request to include annual goals "more consistent" with their own observations of the student's present levels, which the parents describe as "more similar to that of a typically developing kindergarten student." The parents also argue that although the student "significantly surpassed all of the goals set [forth] in the IEP" at home, the annual goals in the IEP were not reasonably calculated to enable the student to receive educational benefit. Additionally, the parents argue that the annual goals in the June 2016 IEP did not reflect the student's abilities in June 2016.

In response, the district initially asserts that the parents did not dispute the annual goals in the due process complaint notice, and therefore, the parents are now precluded from raising the annual goals as an issue in dispute on appeal. Alternatively, the district contends that the student's then-current preschool providers generated the annual goals in the June 2016 IEP, which the CSE then reviewed and revised with the parents' input.

An IEP must include a written statement of measurable annual goals, including academic and functional goals designed to meet the student's needs that result from the student's disability to enable the student to be involved in and make progress in the general education curriculum; and meet each of the student's other educational needs that result from the student's disability (see 20 U.S.C. § 1414[d][1][A][i][II]; 34 CFR 300.320[a][2][i]; 8 NYCRR 200.4[d][2][iii]). Each annual goal shall include the evaluative criteria, evaluation procedures and schedules to be used to measure progress toward meeting the annual goal during the period beginning with placement and ending with the next scheduled review by the committee (8 NYCRR 200.4[d][2][iii][b]; see 20 U.S.C. § 1414[d][1][A][i][III]; 34 CFR 300.320[a][3]).

As noted briefly above, the CSE convened on two dates to develop the June 2016 IEP; the first CSE meeting, which occurred sometime in spring 2016, included, among others, three staff members from the student's then-current preschool: the executive director, the student's speech-language pathologist, and the director of ABA services (see Tr. pp. 244, 478-79, 498-99, 660, 685-86, 773-79, 1017, 1151-52, 1192-93; Dist. Ex. 46 at p. 8).[29] When the CSE reconvened in June 2016 to finalize the IEP, it did not include any preschool staff as CSE members (see Tr. pp. 478-79; Dist. Ex. 45 at p. 1). Overall, several witnesses at the impartial hearing testified that preschool

[29] At the impartial hearing, the director of ABA services described her present role at the preschool at "one of the directors" (Tr. p. 1017). She testified that upon the student's return to the preschool in November or December 2015 and through June 2016, she and two other staff members provided the student with five 30 minute sessions per week of discrete trial training (see Tr. pp. 1023-24, 1079-81, 1183-85; see generally Dist. Ex. 40). The witness also believed that the student received the same frequency and duration of discrete trial training during the 2014-15 school year (see Tr. pp. 1079-80); however, the student's mother testified that the student did not begin receiving discrete trial training at the preschool until summer 2015 (see Tr. pp. 1369, 1376-77).

staff (although not necessarily those who attended the initial CSE meeting) created a draft IEP—or at a minimum, input the student's present levels of performance into a draft through "IEP Direct"—which both CSEs reviewed and revised to ultimately become the student's finalized June 2016 IEP (see Tr. pp. 238, 246, 478-79, 492, 498-502, 677-80, 779; compare Dist. Ex. 46 at pp. 8-16, with Dist. Ex. 45 at pp. 1-10).

However, contrary to the district's assertion, some confusion exists in the hearing record as to whether the student's preschool providers created the annual goals in the IEP—for example, the district's director of special education (director) testified that the student's then-current preschool providers drafted the annual goals in the June 2016 IEP, which the CSE "reviewed as a committee twice subsequent to them drafting it" (Tr. pp. 478-79). Yet a district speech-language pathologist who provided speech-language therapy services to the student during the 2015-16 school year and who attended the June 2016 CSE meeting testified that she wrote a "few [annual] goals" for the student and that the CSE "did some revisions on the goals" (Tr. p. 609; see Tr. pp. 597-609; Dist. Ex. 35 at p. 4). Next, the student's preschool speech-language pathologist who attended the initial CSE meeting testified that although the preschool staff assisted in the preparation of the present levels of performance in the student's IEP, neither she nor the preschool staff assisted in the development of the annual goals in the student's IEP (see Tr. pp. 675-86, 688-89, 691; see generally Dist. Ex. 41). The preschool director of ABA services also testified that the preschool staff did not "write the goals for kindergarten" (Tr. pp. 1197-98). Finally, the preschool executive director testified that at the initial CSE meeting, the preschool staff in attendance provided "input into goals," but did not submit "something in writing" (Tr. pp. 775-76).[30]

Regardless of this confusion, the hearing record contains sufficient evidence to conclude that, contrary to the parents' assertions, the CSEs considered the parents' input into the formulation of the annual goals, including their request to include annual goals "more consistent" with their own observations of the student's present levels. Furthermore, the hearing record contains sufficient evidence to conclude that the CSEs discussed, reviewed, and revised the annual goals ultimately incorporated into the June 2016 IEP. On these points, the district special education teacher who attended the June 2016 CSE meeting testified that when the CSE "started going through the goals," the parents would indicate that the student could "already do these things" (Tr. pp. 244-45). In consideration of the parents' input, the CSE then rewrote some of the annual goals to be more consistent with what the parents indicated that the student "was capable of doing" (Tr. p. 245; see Dist. Ex. 46 at pp. 1, 6). Similarly, the director recalled reviewing and discussing the annual goals at the June 2016 CSE meeting—as well as the student's present levels of performance—because "some disagreement" arose concerning "what [the student] could do at

[30] The hearing record included a document drafted by the parents, which included a list of what appears to be annual goals for the student (see Dist. Ex 46 at pp. 17-21; see also Joint Ex. 1 at pp. 10-14). At the impartial hearing, the director testified that she did not recall when the parents provided this document to the district, that is, whether it was before or after the June 2016 CSE meeting (see Tr. pp. 487-88; Dist. Ex. 46 at pp. 17-21). In the due process complaint notice, it appears that the parents forwarded a copy of this same document to the director attached to an e-mail dated June 29, 2016, after the June 2016 CSE meeting (see Joint Ex. 1 at pp. 8-14). However, when reviewing the annual goals in the June 2016 IEP, it does appear that some of the annual goals reflect concepts or language derived from the list of annual goals in this document, which suggests that the district or the June 2016 CSE may have had a copy of the document at the time the IEP was developed (compare Dist. Ex. 46 at p. 19, with Dist. Ex. 46 at pp. 12-13, and Dist. Ex. 45 at pp. 5-6).

school and what was observed at home" (Tr. pp. 479-80). The director testified that the June 2016 CSE modified the present levels of performance to "include strategies that the parents believed to be effective" for the student, and the CSE also reviewed the annual goals (Tr. p. 480; see Dist. Ex. 46 at pp. 1, 6).[31] Finally, the preschool executive director confirmed in testimony that the CSE "did talk about the goals" and the preschool staff "did make comments about the goals" (Tr. p. 776).

Turning to the parents' argument that the annual goals were not appropriate because the student had "substantially surpassed" them at the time of development, the evidence in the hearing record does not support this assertion, especially upon review of the student's present levels of performance as reflected in the June 2016 IEP. Here, the IEP generally indicated that the student exhibited delays in the areas of speech-language, pragmatic language, academic skills, cognitive skills, social skills, and fine motor skills (see Dist. Ex. 45 at pp. 2-5). Specifically, the June 2016 IEP reflected that the student continued to exhibit "significantly delayed" receptive and expressive language skills, "delayed" articulation skills in connected speech, "below age level" pragmatic language skills, and his spontaneous speech continued to be a "combination of English and [his native language]" (id. at p. 3). According to the IEP, the student could "identify pictures of a variety of nouns and actions in a structured activity," and he could produce "verb [and] noun phrases more consistently to describe a picture" (id.). At that time, the student could answer "basic 'yes and no' factual questions in discrete trials," and produced one to four word "phrases to comment" (id.). It was also noted in the IEP that the student "spontaneously greet[ed] familiar adults and peers with 'hi' and 'bye'" (id.). With respect to the parents' concerns, the June 2016 CSE denoted in the IEP that the student needed to improve his "articulation skills in connected speech," his ability to "respond to a variety of questions," and his pragmatic skills for a "variety of pragmatic functions (requesting, commenting, verbal discourse, etc.)," and he needed to "expand vocabulary skills to label" (id. at p. 4). To address the student's speech-language needs, the June 2016 IEP included annual goals that targeted his ability to "describe actions in presented pictures with no more than [three] cues" and to repeat a three-word to four-word sentence "using both intelligible speech and appropriate voice level with no more than [one] model" (id. at p. 6).

In the present levels of performance section of the IEP, the June 2016 CSE described the student's cognitive skills as "significantly below average" (Dist. Ex. 45 at p. 3). In addition, the IEP reflected that the student could "count and identify numbers 1 [through] 10" and demonstrated the ability to "write his first name when given a model" (id.). As of November 2015, the student could "identify 18/26 letters" of the alphabet, and the IEP further noted that the student was "now able to recognize the letters in his first name, identify parts of a book, answer social question and sit and attend with a quiet body (including hands), when assessed in a 1:1 discrete trial format, 1:1, with food reinforcers and no distractions" (id.). With respect to the parents' concerns, the June 2016 CSE identified in the IEP that the student needed to improve his ability to "[c]ount objects to [up to] 20 using 1:1 correspondence" (id. at p. 4). To address the student's academic needs, the June 2016 IEP contained an annual goal designed to improve the student's ability to "follow a one-step direction in the classroom," and specific to the area of mathematics, the IEP included an

[31] The director also explained in testimony the general process used in writing annual goals and what factors a CSE considered when writing annual goals for school-aged students as opposed to annual goals written for preschool students (see Tr. pp. 500-03).

annual goal for the student to improve his ability to "identify numbers 1 [through] 20 presented in any order" (id. at p. 6).

With regard to adaptive and daily living skills, the June 2016 IEP indicated that when the student arrived at school he "complete[d] the morning routine independently" (Dist. Ex. 45 at p. 3). The June 2016 CSE further noted, however, that the student exhibited "difficulty attending during small and large group activities" and "requir[ed] continuous modeling and prompts" (id.). As described in the IEP, the student followed one-step directions, and he "respond[ed] to a 3-step compliance routine (request-model-assist.)" (id.). However, the student continued to require "adult support, modeling, and verbal prompts to follow multiple directions" (id.). The IEP further reflected that the student was toilet trained and that he ate snack and lunch "independently" (id.). While not directly targeted with annual goals, the June 2016 CSE included several strategies to address the student's needs described above within the management needs section of the IEP (i.e., recommending the use of a "3-step compliance approach (REQUEST-MODEL-ASSIST)") and through recommendations for supplemental aids and services, program modifications, and accommodations, including the use of a visual schedule and refocusing and redirection throughout the school day (id. at pp. 5, 7-8).

In describing the student's present levels of social development, the June 2016 IEP reflected the student's "interest [in] interacting with peers and adults"; however, the student continued "to require adult support and modeling to initiate social interactions appropriately other than saying hi" (see Dist. Ex. 45 at p. 4). Additionally, the June 2016 IEP indicated that the student demonstrated "difficulty sharing with peers," explaining that while he "often expect[ed] [peers] to share," he did not always "reciprocate[] without support" (id.). The June 2016 IEP also reported that, "[i]n the past, [the student] showed frustration by yelling or hitting"; however, at that time, the student was "now spontaneously using his words to express distress when asked to comply with demands," and furthermore, the student was beginning to independently stop himself when he would start to exhibit aggression (id.). The IEP noted that the student "continue[d] to work on social skills goals" during discrete trial teaching and that he was "making slow progress with initiating appropriate interactions with peers, inviting a peer to play and identifying facial expressions" (id.). With respect to the parents' concerns, the June 2016 IEP indicated that the student needed to "[i]nitiate appropriate verbal and social exchanges with peers" (id. at p. 4). To address the student's social/emotional and behavior needs, the June 2016 IEP contained annual goals designed to improve his ability to identify "12 different emotions" when shown photographs of the same and to "engage in cooperative play skills (e.g., sharing, initiate and maintain play with peers, demonstrate turn-taking, display appropriate response to winning/losing) for 10 minutes" (id. at p. 6).[32]

In the area of physical development, the June 2016 IEP indicated that the student "present[ed] with delayed fine motor skills" and noted that "[j]oint hypermobility within the hands interfere[d] with his ability to use stable grasp postures on writing tools" (Dist. Ex. 45 at p. 4).

[32] In addition to annual goals to address the student's social/emotional and behavior needs, the June 2016 CSE included strategies to further address the student's needs within the management needs section of the IEP (i.e., recommending the use of "[m]odeling of appropriate social interaction," the use of "[p]ositive reinforcement for compliance and prosocial behaviors," and "ignor[ing] and redirect[ing] undesired behaviors") (Dist. Ex. 45 at p. 5).

However, the IEP also noted that the student could "form most of the letters of his name," but he continued to "need repetition and a multisensory approach to write these letters in correct order" (id.). Furthermore, the June 2016 IEP described the student as "often distracted," and noted that as a result, he would "miss salient features of a task" (id.). The June 2016 IEP also noted that the student needed "additional cues [or] supports to use visual demonstrations," and he "often use[d] inefficient movement patterns which result[ed] in him needing additional time to complete fine motor tasks" (id.). Finally, the IEP reflected that the student "enjoy[ed] a variety of movement experiences as well as opportunities to learn using a sensory motor approach" (id.). With respect to the parents' concerns, the IEP indicated that the student needed to "correctly form letters and numbers" (id. at p. 5). Here, the student's needs in the area of fine motor skills were addressed with annual goals designed to improve his ability to "legibly form 20/26 alphabet letters with use of a visual model" and to complete a "simple [three-]step fine motor activity with a visual model with no more than [two] cues" (id. at p. 6).

As the discussion above demonstrates, the evidence in the hearing record leads me to the overall conclusion that the annual goals in the June 2016 aligned with and targeted the student's needs identified in the present levels of performance, appropriately addressed the student's needs, and were sufficiently specific and measurable to guide instruction and to evaluate the student's progress over the course of the school year (see D.A.B. v. New York City Dep't of Educ., 973 F. Supp. 2d 344, 359-61 [S.D.N.Y. 2013]; E.F. v. New York City Dept. of Educ., 2013 WL 4495676, at *18-*19 [E.D.N.Y. Aug. 19, 2013]; D.B., 966 F. Supp. 2d at 334-35; S.H. v. Eastchester Union Free Sch. Dist., 2011 WL 6108523, at *8 [S.D.N.Y. Dec. 8, 2011]; W.T. v. Bd. of Educ., 716 F. Supp. 2d 270, 288-89 [S.D.N.Y. 2010]; Tarlowe, 2008 WL 2736027, at *9; M.C. v. Rye Neck Union Free Sch. Dist., 2008 WL 4449338, at *11 [S.D.N.Y. Sept. 29, 2008]; W.S. v. Rye City Sch. Dist., 454 F. Supp. 2d 134, 146-47 [S.D.N.Y. 2006]; Application of the Dep't of Educ., Appeal No. 12-108 [finding annual goals appropriate where the goals addressed the student's areas of need reflected in the present levels of performance]).[33]

2. Educational Placement and LRE

Turning now to the crux of the parties' dispute, the parents allege that the "Connections program and kindergarten" did not satisfy either the FAPE requirement or the LRE requirement, as the student had succeeded in an "all-day integrated setting." The parents also argue that the student required a "5-hour integrated school day." In response, the district asserts that the June 2016 IEP provided the student with the opportunity to attend a full-time, general education kindergarten class with his nondisabled peers, together with the opportunity to receive special education services in a special education classroom when the student's "nondisabled classmates would not be in school."

[33] A comparison of the draft IEP with the finalized June 2016 IEP reveals that the draft IEP originally included at least two annual goals addressing the student's speech-language needs, which appeared to target specific needs identified by the parents as concerns in the present levels of performance (i.e., needs to "improve ability to respond to a variety of questions" and to "expand vocabulary skills to label") but did not appear in the finalized IEP (compare Dist. Ex. 46 at pp. 11, 13, with Dist. Ex. 45 at pp. 4, 6). The draft IEP also included a third annual goal related to the student's articulation skills, which appeared as a modified version in the June 2016 IEP (compare Dist. Ex. 46 at p. 13, with Dist. Ex. 45 at p. 6).

Before reaching an analysis of the LRE question, it is helpful to briefly review the special education program recommended for the student in the June 2016 IEP. Initially, and using only the June 2016 IEP as a reference, the CSE recommended that the student attend a 12-month school year program (see Dist. Ex. 45 at pp. 1, 8-9). For the summer (July and August) portion of the school year, the CSE recommended that the student attend a 12:1+1 special class placement in a non-integrated setting (five days per week, five hours and 30 minutes per day), together with one 30-minute session per week of speech-language therapy in a small group in a non-integrated setting (id.). According to the IEP, for September through June 2016, the CSE recommended that the student attend a 12:1 special class placement ("Connections") in a "[s]pecial [c]lasses" setting (five days per week, two hours per day), together with related services of speech-language therapy and OT provided to the student either in a therapy room or in the classroom (id. at pp. 1, 7). In that portion of the IEP used to describe the student's "Participation with Students without Disabilities," the June 2016 CSE inserted "Not Applicable" (id. at pp. 9-10).[34] At no point in the administrative does either party seriously appear to contemplate that the student would not have attended the morning kindergarten session in the general education setting, consequently this is probably little more than a ministerial error to the extent that the IEP did not note that the student would attend the general education environment.[35]

While not necessarily reflected in the June 2016 IEP, the evidence in the hearing record demonstrates that the student's special education program consisted not only of the 12:1 special class placement—or the "Connections" classroom—but also the "regular [half] day kindergarten program" in the "mainstreamed setting" for five days per week, 2 hours 40 minutes per day

[34] Significantly, although the June 2016 CSE recommended essentially the same "Connections" program for the 2016-17 school year as in the previous school year, for the 2015-16 school year the May 2015 CSE included the following language in the IEP to describe the student's "Participation with Students without Disabilities": "Core academic instruction will be provided in special education setting. Student will participate with Kindergarten peers in the general education setting as appropriate" (compare Dist. Ex. 28 at pp. 9-10, with Dist. Ex. 45 at pp. 9-10). In fact, the only reference to the student attending a classroom setting other than the 12:1 special class placement in the June 2016 IEP is found within the recommendation for the use of a visual schedule in the "kindergarten and special education classes" (Dist. Ex. 45 at p. 7).

[35] To be clear, certain additional instructional or supportive services may be available to special education students and non-disabled students alike (e.g., academic intervention services (AIS) or "building level services"); however, according to the State Education Department, such services should not be listed on a student's IEP (see "Academic Intervention Services: Questions and Answers," at pp. 5, 20, Office of P-12 Mem. [Jan. 2000], available at http://www.p12.nysed.gov/part100/pages/AISQAweb.pdf). On the other hand, services that clearly fall into the realm of special education services are required to be listed on an IEP, at least according to United States Department of Education guidance, which states that "[t]he IEP Team is responsible for determining what special education and related services are needed to address the unique needs of the individual child with a disability. The fact that some of those services may also be considered 'best teaching practices' or 'part of the district's regular education program' does not preclude those services from meeting the definition of 'special education' or 'related services' and being included in the child's IEP" (Letter to Chambers, 59 IDELR 170 [OSEP 2012]). In this case, the only thing that should have been on the IEP is the extent to which any of the student's programing included participation with his non-disabled peers.

(compare Dist. Ex. 45, with Joint Ex. 1 at pp. 7-8, and Dist. Ex. 50, and Tr. pp. 113-14, 466).[36] At the impartial hearing, the district special education teacher assigned to the 12:1 "Kindergarten Connections" special class described the implementation of this particular program during the 2016-17 school year (see Tr. pp. 113-22). First, if the student had attended the district's recommended program, he would have attended an integrated kindergarten classroom for the morning portion of his school day (see Tr. pp. 113-15). The district special education teacher testified that the "Connections" students attended the "regular mainstream kindergarten" in the morning until the "mainstream kindergarten students[']" dismissal time at approximately 10:40 a.m. (Tr. pp. 113-14).[37] After dismissal, the "Connections" students went to lunch and recess (Tr. p. 114). Following lunch and recess, the "Connections" students attended the 12:1 special class placement for the remainder of the school day where they received "skill building and instruction" for English language arts (ELA), mathematics, writing, and social skills (Tr. p. 113). At times, the students in the "Connections" class received "one-on-one" instruction with the teacher or participated in "small group" instruction (Tr. p. 114). For the 2016-17 school year, the "Connections" special class placement had a total of four students in the class (id.). All four students in the "Connections" special class placement attended the same "general education kindergarten class" in the morning (Tr. pp. 114-15). During the afternoon, the "Connections" students also attended "specials" together, which the district special education teacher described as "library, art, music," "computer class," and "gym" (Tr. pp. 120-21).

In finding that the district offered the student a FAPE in the LRE for the 2016-17 school year, the IHO first noted that the student's kindergarten class consisted of both disabled and nondisabled peers and support from "teacher aides" who would assist the student's ability to "generalize the academic and social skills taught in the Connection Program" (IHO Decision at p. 14). Relying solely on the student's placement within this integrated kindergarten class—which, as noted by the IHO, provided the student "with exposure to peers who demonstrate[d] appropriate behavior"—but without undertaking an analysis of the two-prong test set forth in Newington to determine whether the June 2016 IEP placed the student in the LRE, the IHO concluded that the placement satisfied the LRE requirement (id.). Similarly, the evidence in the hearing record reveals that not only did the June 2016 CSE suffer from the same fatal flaw, but also that the June 2016 CSE, in making its placement recommendation for the 2016-17 school year, only considered program options the district already had available rather than making its recommendations based upon the student's needs, a consideration of the full continuum of alternative placements, and then

[36] In support of its assertion that the student's recommended placement in a "general education kindergarten class, with supports form the Connections special class" constituted the student's LRE, the district argues that the "special education class, therefore, [was] a special education support to enable the [s]tudent to continue to fully participate in and to progress within the general education setting" (Dist. Mem. of Law at p. 9). A plain reading of the June 2016 IEP does not support this assertion; instead, the June 2016 IEP indicates that the student would attend a 12:1 special class placement five days per week for two hours per day (see generally Dist. Ex. 45).

[37] The district special education teacher explained that within the kindergarten setting, the "Connections" students received the support of "two special education aides," who assisted the students with "packing and unpacking their belongings," helping the students "use their visual schedules and their 'first then' cards, and any sensory breaks that [were] needed" (Tr. p. 115). She also testified that the two special education aides provided "small group instruction along with the classroom teacher" (id.). The June 2016 IEP did not include any recommendations for the services of an aide during any portion of the student's school day during the 2016-17 school year (see generally Dist. Ex. 45).

offering the student the least restrictive placement from that continuum that was appropriate for his needs in contravention of T.M. v. Cornwall Cent. Sch. Dist., 752 F.3d 145, 165-67 (2d Cir. 2014). Consequently, the IHO's conclusion must be reversed.

The IDEA requires that a student's recommended program must be provided in the LRE (20 U.S.C. § 1412[a][5][A]; 34 CFR 300. 107, 300.114[a][2][i], 300.116[a][2], 300.117; 8 NYCRR 200.1[cc], 200.6[a][1]; see T.M., 752 F.3d at 161-67; Newington, 546 F.3d at 111; Gagliardo, 489 F.3d at 105; Walczak, 142 F.3d at 132; Patskin v. Bd. of Educ., 583 F. Supp. 2d 422, 428 [W.D.N.Y. 2008]). In determining an appropriate placement in the LRE, the IDEA requires that students with disabilities be educated to the maximum extent appropriate with students who are not disabled and that special classes, separate schooling or other removal of students with disabilities from the general educational environment may occur only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (20 U.S.C. § 1412[a][5][A]; see 34 CFR 300.114[a][2][i], 300.116[a][2]; 8 NYCRR 200.6[a][1]; Newington, 546 F.3d at 112, 120-21; Oberti v. Bd. of Educ., 995 F.2d 1204, 1215 [3d Cir. 1993]; J.S. v. N. Colonie Cent. Sch. Dist., 586 F. Supp. 2d 74, 82 [N.D.N.Y. 2008]; Patskin, 583 F. Supp. 2d at 430; Watson v. Kingston City Sch. Dist., 325 F. Supp. 2d 141, 144 [N.D.N.Y. 2004]; Mavis v. Sobol, 839 F. Supp. 968, 982 [N.D.N.Y. 1993]). The placement of an individual student in the LRE shall "(1) provide the special education needed by the student; (2) provide for education of the student to the maximum extent appropriate to the needs of the student with other students who do not have disabilities; and (3) be as close as possible to the student's home" (8 NYCRR 200.1[cc]; 8 NYCRR 200.4[d][4][ii][b]; see 34 CFR 300.116). Consideration is also given to any potential harmful effect on students or on the quality of services that they need (34 CFR 300.116[d]; 8 NYCRR 200.4[d][4][ii][c]). Federal and State regulations also require that school districts ensure that a continuum of alternative placements be available to meet the needs of students with disabilities for special education and related services (34 CFR 300.115; 8 NYCRR 200.6). The continuum of alternative placements includes instruction in regular classes, special classes, special schools, home instruction, and instruction in hospitals and institutions; the continuum also makes provision for supplementary services (such as resource room or itinerant instruction) to be provided in conjunction with regular class placement (34 CFR 300.115[b]).

To apply the principles described above, the Second Circuit adopted a two-pronged test for determining whether an IEP places a student in the LRE, considering (1) whether education in the general classroom, with the use of supplemental aids and services, can be achieved satisfactorily for a given student, and, if not, (2) whether the school has mainstreamed the student to the maximum extent appropriate (T.M., 752 F.3d at 161-67 [applying Newington two-prong test]; Newington, 546 F.3d at 119-20; see N. Colonie, 586 F. Supp. 2d at 82; Patskin, 583 F. Supp. 2d at 430; see also Oberti, 995 F.2d at 1217-18; Daniel R.R. v. State Bd. of Educ., 874 F.2d 1036, 1048-50 [5th Cir. 1989]). A determination regarding the first prong, (whether a student with a disability can be educated satisfactorily in a general education class with supplemental aids and services), is made through an examination of a non-exhaustive list of factors, including, but not limited to

> (1) whether the school district has made reasonable efforts to accommodate the child in a regular classroom; (2) the educational benefits available to the child in a regular class, with appropriate supplementary aids and services,

> as compared to the benefits provided in a special education class; and (3) the possible negative effects of the inclusion of the child on the education of the other students in the class

(Newington, 546 F.3d at 120; see N. Colonie, 586 F. Supp. 2d at 82; Patskin, 583 F. Supp. 2d at 430; see also Oberti, 995 F.2d at 1217-18; Daniel R.R., 874 F.2d at 1048-50). The Court recognized the tension that occurs at times between the objective of having a district provide an education suited to a student's particular needs and the objective of educating that student with nondisabled peers as much as circumstances allow (Newington, 546 F.3d at 119, citing Daniel R.R., 874 F.2d at 1044). The Court explained that the inquiry is individualized and fact specific, taking into account the nature of the student's condition and the school's particular efforts to accommodate it (Newington, 546 F.3d at 120).[38]

If, after examining the factors under the first prong, it is determined that the district was justified in removing the student from the general education classroom and placing the student in a special class, the second prong requires consideration of whether the district has included the student in school programs with nondisabled students to the maximum extent appropriate (Newington, 546 F.3d at 120).

Overall, I infer from the hearing record before me and the development of the parties' positions that the district and parents were undoubtedly aware of the global nature of the "Connections" program for all of the students therein and its relationship to the general education setting at the time of the June 2016 CSE meeting; however, the hearing record contains little, if any, evidence to establish that the district engaged in any meaningful LRE considerations that were individualized to this student when making its recommendation to remove the student from his non-disabled peers for approximately half of the instructional time envisioned under this student's plan for the 2016-17 school year. For example, unlike every other CPSE or CSE subcommittee or CSE meeting held for the student since 2014, the hearing record does not include any CSE meeting minutes or a prior written notice for the initial CSE meeting held in spring 2016 that would indicate what, if any, discussions took place about the recommended placement or the student's placement in the LRE (see Dist. Exs. 11 at pp. 1-2, 4; 16 at p. 1; 20 at pp. 1-2; 21 at p. 1; 25 at p. 1; 26 at pp. 1-2, 4-8; 27 at p. 4; 34 at pp. 6-9; 46 at pp. 1, 6). At a minimum, the evidence in the hearing record indicates that the spring 2016 CSE meeting was "very contentious," and a "great deal of disagreement" existed about the "direction of the IEP" between the parents and a district representative at the meeting (Tr. pp. 776-79). In addition, one witness testified that this initial CSE meeting ended with a "disagreement" with the management needs section of the IEP, which had been "discussed at length" (Tr. pp. 780-82). Next, while the hearing record included a copy of the June 2016 CSE meeting minutes, the minutes do not reflect any discussions about the student's placement or, more specifically, the two-prong Newington test: (1) whether education in the general classroom, with the use of supplemental aids and services, could be achieved satisfactorily for this student, and, if not, (2) whether the spring 2016 CSE or the June 2016 CSE mainstreamed the student to the maximum extent appropriate (see Dist. Ex. 46 at p. 6). Moreover, the July 2016 prior written notice related to the June 2016 CSE meeting indicated that, with regard

[38] The Second Circuit left open the question of whether costs should be considered as one of the relevant factors in the first prong of the LRE analysis (Newington,546 F.3d at 120 n.4).

to a description of "any other options considered and the reason why those options were rejected," the district inserted the following as a response: "There were no other options considered at this time" (id. at p. 1). Finally, the June 2016 IEP, itself, failed to include any notations that would document a discussion regarding the student's placement and LRE considerations (see generally Dist. Ex. 45).

Testimonial evidence elicited at the impartial hearing, while providing some insight into the CSEs' decision-making process when selecting the student's placement in the LRE, was also insufficient to establish that the district appropriately considered or applied the two-prong Newington test. For instance, the district's director of special education (director) initially testified that the CSE believed the "Connections" program was appropriate for the student because he had a "diagnosis of autism, and given his cognitive and language abilities, the team felt that a half-day kindergarten program alone would not be sufficient to meet his educational needs" (Tr. pp. 487-88). When directly questioned if the CSE considered less restrictive placements such as a "co-teaching or consultant teacher model within a kindergarten class," the director offered two rather nonresponsive answers (Tr. p. 488). First, the director testified that "[w]e always consider the [LRE], and so that was certainly considered by the team who went to observe [the student] in preschool, and then the team ma[de] a recommendation based on their observation and based on their consultation with parents and staff" (id.). Next, when pressed about why the CSE recommended "something that was more intensive in terms of services . . . instead of co-teaching or consultant teacher," the director essentially repeated her previous response: the student's "language and cognitive profile plan demonstrate[d] that he struggle[d] greatly with language processing and cognition; therefore, if he were solely in a two-and-a-half-hour day, the team believe[d] that he would not get sufficient reteaching and repetition so that he could learn and have access to the kindergarten curriculum" (id.).

Thus, to the extent that the director's testimony suggests that the CSEs recognized that the student's needs required more supports and services than could be offered during the district's half-day integrated kindergarten classroom, this same testimony does not answer the question of why, when providing additional supports to the student in the latter portion of the school day, did the CSE believe that the student had to be removed from his non-disabled peers in order to receive sufficient additional support. This is essentially the question that is always posed by the first prong of the Newington test with respect to whether education in the general classroom, with the use of supplemental aids and services, could be achieved satisfactorily for this student. Had the district and IHO applied the Newington test more systematically throughout the administrative process, they would have discovered that the facts in this case closely parallel those considered by the Second Circuit in T.M. (752 F.3d at 154-55, 161-63). Notably, this student, as a preschool student with a disability—similar to the student at issue in T.M.—attended "'mainstream' general education classrooms with non-disabled students" (i.e., an integrated setting) for preschool from approximately March 2015 through August 2015 as recommended in his March 2015 IEP, and then again, from approximately December 2015 through August 2016 per agreement by the parties (T.M., 752 F.3d at 153-54; see Tr. pp. 697-98, 710-11, 810-12, 836-37, 1065-68; Dist. Exs. 24 at p. 1; 25 at p. 1; 26 at pp. 1-2; 27 at pp. 6, 13-14; 33 at p. 1; 39; see generally Dist. Exs. 23; 40-43). In addition, it is undisputed that the student attended a full-day integrated preschool classroom, meaning approximately four hours per day during the 2014-15 school year and approximately five hours per day during the 2015-16 school year (see Tr. pp. 711, 761-62). Also, similar to the facts weighed and considered by the Court in T.M., the evidence in the hearing record reflects that the

student made progress and "was able to achieve a satisfactory education" while attending the integrated preschool classroom (T.M., 752 F.3d at 162-63; see generally Tr. p. 847; Dist. Exs. 29-30; 40-43; 47). Therefore, as the Court concluded in T.M., the facts in this case "clearly demonstrate[] that [the student] could succeed" in a full-day integrated setting (T.M., 752 F.3d at 162). In addition and also consistent with T.M., the hearing record does not contain evidence—nor does the district point to any evidence—indicating that the student would "obtain greater educational benefits from a more restrictive setting" (T.M., 752 F.3d at 162).[39] In light of these facts, it is reasonable to conclude from the first prong of the Newington test that a full-day integrated setting should have been considered first as the least restrictive placement that could address the student's needs (see T.M., 752 F.3d at 162), rather than immediately deciding to remove the student from the general education setting and his non-disabled peers upon the conclusion of the morning kindergarten session.[40]

Instead, while the district recognized that the student required more support than a half-day general education setting and proceeded to consider a full-day program, the hearing record thereafter lacks any evidence that the district considered the student's placement in a full-day integrated setting for the 2016-17 school year. It appears that the reason for not considering such a full-day integrated program was that essentially, such a program did not exist at the district. The same reasoning, the nonexistence of an in-district integrated summer program, was advanced by Cornwall before the Second Circuit and the Court resoundingly rejected that reasoning (T.M., 752 F.3d at 166). The Court instructed that if the Cornwall did not wish to create an integrated program, it was not required to, but that it was required to place the student in an integrated public program elsewhere (id.).[41] Similarly, the evidence in the hearing record in this case demonstrates that the district recommended the only full-day program it had already created: namely, a half-day

[39] I have presided over many cases in which a party or an IHO equates the term "additional support" with "more restrictive" as if the two phrases are synonymous and, for some disabled students, the type of additional supports available in non-integrated settings are very clearly necessary to provide the student with educational benefits or avoid unduly impinging upon the educational experience of other students in the general education setting. However, it does not follow that "additional support" always means "more restrictive."

[40] To be clear, in light of these facts, if the parents had specifically challenged the district's decision to recommend a 12:1+1 special class placement in a non-integrated setting for summer 2016, the Court's holding in T.M. would appear to require a finding, on this basis alone, that the district failed to offer the student a FAPE in the LRE for the 2016-17 school year (see T.M., 752 F.3d at 162-65).

[41] The Court held that "[w]e therefore agree with both parties that the IDEA does not require a school district to create a new mainstream summer program from scratch just to serve the needs of one disabled child. * * * Instead, the school district may choose to place the child in a private mainstream summer program, or a mainstream summer program operated by another public entity" (T.M. 752 F.3d, at 166). Assuming that the parents are correct and that the district should have offered the student a full-day integrated setting with appropriate supports (a contention that the district has not refuted in this case under a Newington analysis), it does not follow that the district must be the entity that creates such a program or that it be created exactly as the parents wish. But the district may be called on to find such an all-day integrated program. The Second Circuit went on to reject several of Cornwall's additional arguments: "Cornwall responds that it had no way to offer T.M. a placement in a mainstream ESY program operated by another entity, because (1) no public mainstream ESY programs existed in the area and (2) New York law prohibited it from offering T.M. a placement in a private mainstream ESY program. But even assuming those facts are true, they do not change Cornwall's obligation under the IDEA to consider a full continuum of alternative placements and then offer T.M. the least restrictive placement from that continuum that is appropriate for his needs" (T.M. 752 F.3d, at 166).

integrated kindergarten setting for the student, together with a 12:1 special class placement ("Connections") in a non-integrated setting for the remainder of his school day. During cross-examination, the parents continued to press the director about potential or even hypothetical program options and LRE considerations for the student. Upon questioning, the director confirmed that the district offered both a morning kindergarten and an afternoon kindergarten program (see Tr. p. 517). When asked if the district or if the CSE considered an "integrated . . . all day" program for the student, the director testified that the district did not "have an integrated all-day program," noting, again, that the district "only" had a "half-day kindergarten" program (Tr. pp. 517-18). The director offered the same response when asked if a CSE had "ever considered providing" an integrated all-day program for autistic students (Tr. pp. 518-19). The IHO also asked the director whether the CSE considered the "possibility of a full day program in general" for the student, that is, placing the student in both a morning kindergarten and in an afternoon kindergarten program during the same day—and the director responded, "[n]o" (Tr. p. 519). Seeking further clarification of the CSE's placement in the LRE determination, the parents asked the director: "Are you saying that the reason you don't provide a full-day integrated environment for an autistic student is because one . . . just simply doesn't exist right now?" (Tr. pp. 519-20). The director responded, again, that the district had a "half-day kindergarten," and if a student functioned "at grade level academically" and therefore did not need "any self-containment," the student would only attend the "integrated portion of the day" (Tr. pp. 520-21). The director continued to explain, however, that if a student needed "additional instruction, we have created essentially a full-day program" for such students, adding that to have students "repeat the same exact content twice in a day . . . d[id] not allow for specialized instruction" and students with a disability that "impacts their ability to learn, . . . require specialized instruction" (Tr. p. 521).

Having created a full-day program that provided the student with access to his nondisabled peers for half of his school day, it is understandable that both the district—and the IHO—believed that the district's recommended placement satisfied its LRE obligation. But according to the Court in T.M., the pervasiveness of the LRE requirement required the application of the two-prong Newington test to the "entire proposed educational program" (see T.M., 752 F.3d at 162-65 [finding specifically that the LRE requirement applies to the summer component of the student's recommended 12-month school year program]; see also 34 CFR 300.107; 300.114; 300.117; 8 NYCRR 200.4[d][2][v][a][1]-[3]). In T.M., the Court rejected the district's assertion that the "LRE requirement [was] necessarily limited, in the ESY context, by what programs the school district already offer[ed]" (T.M., 752 F.3d at 163). Significantly, the Court explained that a "disabled child should not be forced into a special classroom if he or she can be appropriately educated in a mainstream classroom" (T.M., 752 F.3d at 163).

Therefore, assuming for the sake of argument that the half-day integrated kindergarten classroom component of the student's recommended placement met this inquiry, the hearing record fails to contain any evidence to establish that either the spring 2016 CSE or the June 2016 CSE undertook any analysis of the Newington factors to determine whether the 12:1 special class placement (or the "Connections" program) recommended in the June 2016 IEP met these same LRE requirements. It is undisputed that the district's recommended "Connections" classroom was a 12:1 special class placement—a special education program "open only to students with disabilities" (see T.M., 752 F.3d at 164; 8 NYCRR 200.6[h]). If the district did not have a less restrictive placement available for the student in the latter portion of the school day, the district was not required, as the parents suggest, to create a "new" program "just to serve the needs of one

disabled child" (T.M., 752 F.3d at 165-66). However, this does not absolve the district from complying with the need to comply with the IDEA's LRE requirement, which the Court indicates may be satisfied if the district "choose[s] to place the child in a private . . . program, or a . . . program operated by another public entity" (T.M., 752 F.3d at 166).[42]

3. Management Needs and Methodology

The gravamen of the parties' dispute focuses on whether the June 2016 CSE's failure to include a recommendation for ABA as a methodology in the management needs section of the student's IEP resulted in a failure to offer the student a FAPE. The parents argue that the student required a full-day, integrated intensive ABA program, modeled on the preschool program, and that provided the student with 40 hours per week of intensive ABA. The parents also assert that the management needs in the June 2016 IEP included only "trivial elements of a comprehensive program requiring no training of staff." In response, the district admits that the June 2016 IEP did not recommend a placement that utilized ABA methodology, but further responds that the district hired a BCBA with "training and experience in the application of ABA."

State regulation and guidance documents define management needs as the "nature and degree to which environmental modifications and human or material resources are required to enable the student to benefit from instruction" (8 NYCRR 200.1[ww][3][i][d]; see "Guide to Quality Individualized Education Program [IEP] Development and Implementation," at p. 20, Office of Special Educ. [Dec. 2010], available at http://www.p12.nysed.gov/specialed/publications/iepguidance/IEPguideDec2010.pdf [providing examples of environmental modifications (i.e., consistency in routine, limited visual or auditory distractions, adaptive furniture), human resources (i.e., assistance in locating classes, following schedules, and note

[42] In determining a student's educational placement, State and federal regulations provide that a district must "ensure" that a student attend a placement "as close as possible to the [student's] home" and "[u]nless the IEP of a [student] with a disability requires some other arrangement, the [student] is educated in the school that he or she would attend if nondisabled" (34 CFR 300.116[b][3], [c] [emphasis added]; see 8 NYCRR 200.1[cc], 200.4[d][4][ii]). Numerous courts have held that, while a district remains obligated to consider distance from home as one factor in determining the school in which a student's IEP will be implemented, this provision does not confer an absolute right or impose a presumption that a student's IEP will be implemented in the school closest to his or her home or in his or her neighborhood school (see White v. Ascension Parish Sch. Bd., 343 F.3d 373, 380-82 [5th Cir. 2003]; Lebron v. N. Penn Sch. Dist., 769 F. Supp. 2d 788, 801 [E.D. Pa. 2011] [finding that "though educational agencies should consider implementing a child's IEP at his or her neighborhood school when possible, [the] IDEA does not create a right for a child to be educated there"]; Letter to Trigg, 50 IDELR 48 [OSEP 2007]; see also R.L. v. Miami-Dade Cnty. Sch. Bd., 757 F.3d 1173, 1191 n.10 [11th Cir. 2014]; A.W. v. Fairfax Cnty. Sch. Bd., 372 F.3d 674, 682 [4th Cir. 2004]; McLaughlin v. Holt Pub. Sch. Bd. of Educ., 320 F.3d 663, 672 [6th Cir. 2003]; Kevin G. v. Cranston Sch. Comm., 130 F.3d 481, 482 [1st Cir. 1997]; Flour Bluff Ind. Sch. Dist. v. Katherine M., 91 F.3d 689, 693-95 [5th Cir. 1996]; Urban v. Jefferson Cnty. Sch. Dist. R-1, 89 F.3d 720, 727 [10th Cir. 1996]; Poolaw v. Bishop, 67 F.3d 830, 837 [9th Cir. 1995]; Murray v. Montrose Cnty. Sch. Dist. RE-1J, 51 F.3d 921, 929 [10th Cir. 1995]; Schuldt v. Mankato Indep. Sch. Dist. No. 77, 937 F.2d 1357, 1361-63 [8th Cir. 1991]; Barnett v. Fairfax Cnty. Sch. Bd., 927 F.2d 146, 152-53 [4th Cir. 1991] [holding that a district must "take into account, as one factor, the geographical proximity of the placement in making these decisions"]; H.D. v. Cent. Bucks Sch. Dist., 902 F. Supp. 2d 614, 626 [E.D. Pa. 2012]; Straube v. Florida Union Free Sch. Dist., 801 F. Supp. 1164, 1177-79 [S.D.N.Y. 1992]).

taking), and material resources (i.e., instructional materials in alternative formats)]).[43] A student's management needs must be developed in accordance with the factors identified in the areas of academic or educational achievement and learning characteristics, social development, and physical development, and reported in the student's IEP (see 8 NYCRR 200.1[ww][3][i][d], 200.4[d][2][i]).

A review of the evidence in the hearing record establishes that the initial spring 2016 CSE—described as a "very contentious meeting"—ended with a "disagreement" about the management needs section of the IEP, which had been "discussed at length" (Tr. pp. 780-82; see Tr. pp. 776-79). According to the CSE meeting minutes and the prior written notice, the June 2016 CSE reconvened per the parents' request and, in particular, to discuss the parents' request for "ABA" (Dist. Ex. 46 at pp. 1, 6).[44] At the impartial hearing, the district special education teacher who attended the June 2016 CSE meeting testified that the parents raised concerns at the meeting, and their "big concern" focused on the use of a "three-step approach" with the student (Tr. pp. 244-45). It was also "very important" to the parents that the district use "ignoring and redirecting" with the student as well (Tr. p. 245). The district special education teacher further testified that the June 2016 CSE discussed the parents' desire to put "ABA" and "discrete trials" in the IEP (id.).[45] She explained that although the director told the parents that the district "could not do that," the director also told the parents that the district would "take some of the terminology used in conjunction with discrete trials and kind of reword [it], [and] put that in the IEP so that those things could happen for [the student]" (Tr. pp. 245-46).

In testimony, the director acknowledged that the June 2016 CSE did not agree to the parents' request to specify ABA in the IEP (see Tr. p. 480). In reviewing the draft IEP used at the meeting, the director confirmed that the "handwriting" represented the "parents' input" (Tr. p. 481). She explained that "we had a lot of discussion about management needs" and "we were trying to come up with language that could agree to put in [the student's] IEP"—and the handwritten

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[43] Additional examples of management needs can be found in the general directions for the use of the State's model IEP form (see "General Directions to Use the State's Model Individualized Education Program (IEP) Form," Office of Special Educ. Mem. [Revised Mar. 2010], available at http://www.p12.nysed.gov/specialed/formsnotices/IEP/directions.htm).

[44] The meeting minutes and prior written notice reflected that the CSE was "not in agreement with adding ABA to [the student's] IEP," but the CSE did review and modify the "language" in the present levels of performance to "include strategies that [the] parents believe[d] [were] effective" (Dist. Ex. 46 at pp. 1, 6, 10, 12-15, 17-21). In both the CSE meeting minutes and the prior written notice, the district indicated that the "CSE d[id] not specify methodologies or programs in the IEP" as the reason the CSE declined to include ABA methodology in the June 2016 IEP (id. at pp. 1, 6). In addition, the district noted in the prior written notice that the student's preschool program "provided no specific information regarding [his] progress in his current program" as another rationale for rejecting the parents' request for ABA to be included in the IEP (id.).

[45] In an e-mail to the parents on June 13, 2016—the day before the June 2016 CSE meeting—the director explained to the parents that "[a]s with every methodology, there [was] not one single methodology that me[t] the needs of every child. Each child, based on their development levels and individual goals, require[d] an individualized approach to support their learning" (Joint Ex. 1 at p. 7). After the June 2016 CSE meeting, in an e-mail dated July 5, 2016, the director noted that "[a]s I previously stated, the CSE will not specify and [sic] methodology or program in the management needs section. I do not have any clear data or evidence from [the preschool] about [the student's] progress, therefore I don't have much to support specific management needs other than what our school staff knows about [the student]" (Joint Ex. 1 at p. 15).

notations on the draft IEP was the language that she and the parents agreed upon at that time to include in the management needs (id.; see Dist. Ex. 46 at p. 12). To address the parents' concern about the student receiving "components of ABA," the June 2016 CSE agreed to provide a "specialist who had experience with autism and ABA to support the staff in implementing" the student's IEP and therefore, recommended an "Educational Consult" as a support for school personnel (Tr. p. 485; Dist. Ex. 45 at p. 8). The director testified that she "agreed to that because [she] thought it was a good compromise to not listing methodology on an IEP" and the "consultant" would support the "team in carrying out the basic components of ABA" (Tr. p. 485). She also testified that other than the parents, the "CSE did not believe that ABA was necessary for [the student] to make progress" (Tr. p. 486). However, the June 2016 CSE agreed to add the educational consult "because it was very important to the parents and [she] thought that it was a fair compromise" (id.).

In addition, the director testified that the management needs section of the June 2016 IEP included other language that addressed the "provision of instruction consistent with an ABA model," such as "[m]odeling," the use of "simple direct language until generalization into a naturalistic setting [was] established for a given task," "[t]asks need[ed] to be broken down into sufficiently small steps," "[c]omplex tasks need[ed] to be separated into individual simplistic steps that c[ould] be learned separately and later recombined," "[p]ositive reinforcement for compliance and for social behaviors," "[i]gnore and redirect undesired behaviors," "[o]pportunities for individual instruction when learning basic rote facts or behaviors," "[a]void negative feedback," and the use of "three-step compliance approach" (Tr. pp. 486-87; Dist. Ex. 45 at p. 5).[46]

During cross-examination, the parents asked the director whether the items she included within the management needs section of the IEP were "more or less cherry-picking the things that [she] wanted to put in and avoiding other things that [the parents] requested" (Tr. pp. 504-05). The director responded that she "selected the items because those were general items that related to [ABA] that were appropriate to implement in a school-aged program" (Tr. p. 505). She also testified that the particular items selected to include in the management needs section of the IEP had "nothing" to do with whether teachers would require further training in order to implement the strategies recommended in the management needs (Tr. pp. 505-08).

Turning specifically to the question of methodology, the director initially stated that "[w]e do not include methodology in the IEP" (Tr. p. 508). She explained that it was not included for a "number of reasons," most significantly because when hiring "professionals to teach and provide services to students, we rely on their expertise and their ability to carry out an IEP" (id.). The director also testified that placing a methodology on an IEP "pigeonhole[d] a staff member into only utilizing one very specific tool that may or may not work for the student" and it provides the teacher with "no flexibility to access their professional knowledge" (Tr. pp. 508-09).

[46] The hearing record included a document drafted by the parents, which included proposed language to include in the management needs section of the IEP (see Dist. Ex 46 at pp. 17-19; see also Joint Ex. 1 at pp. 10-12). As noted previously, the director testified that she did not recall when the parents provided this document to the district, that is, whether it was before or after the June 2014 CSE meeting (see Tr. pp. 487-88; Dist. Ex. 46 at pp. 17-21).

Generally, a CSE is not required to specify methodology on an IEP, and the precise teaching methodology to be used by a student's teacher is usually a matter to be left to the teacher's discretion—absent evidence that a specific methodology is necessary (Rowley, 458 U.S. at 204; R.B. v. New York City Dep't of Educ., 589 Fed. App'x 572, 575-76 [2d Cir. Oct. 29, 2014]; A.S. v. New York City Dep't of Educ., 573 Fed. App'x 63, 66 [2d Cir. July 29, 2014], aff'g 2011 WL 12882793, at *16 [E.D.N.Y. May 26, 2011] [noting the "broad methodological latitude" conferred by the IDEA]; K.L. v. New York City Dep't of Educ., 530 Fed. App'x 81, 86 [2d Cir. July 24, 2013]; R.E., 694 F.3d at 192-94; M.H., 685 F.3d at 257 [indicating the district's "broad discretion to adopt programs that, in its educational judgment, are most pedagogically effective"]; see M.L. v. New York City Dep't of Educ., 2014 WL 1301957, at *12 [S.D.N.Y. Mar. 31, 2014] [finding in favor of a district where the hearing record did not "demonstrate[] that [the student] would not be responsive to a different methodology"]; but see A.M. v. New York City Dep't of Educ., 845 F.3d 523, 541-45 [2d Cir. 2017] [holding that "when the reports and evaluative materials present at the CSE meeting yield a clear consensus" regarding methodology, absent evidence to the contrary a program that does not recommend the use of that methodology will not be reasonably calculated to enable the student to receive educational benefits]).

Here, the hearing record fails to contains evidence to support the parents' contention that the student required—in other words be exclusively limited to—an intensive ABA program; instead, the evidence in the hearing record, as described more fully below, shows that the student received instruction using both ABA and non-ABA methodologies, and he made progress in individual and small group settings, as well as in larger group settings with adult support. Therefore, the evidence in the hearing record does not support a conclusion that the student required an intensive ABA program and that the IEP should be limited in that fashion in order to provide the student with a FAPE.

Specifically, the hearing record indicated that from September 2015 through November 2015, the student attended the district's half-day integrated kindergarten classroom, and, for the remainder of the school day, he attended a 12:1+1 special class placement ("Connections") (see Tr. pp. 207-08, 211, 466; Dist. Ex. 28 at pp. 1, 7; see generally Dist. Exs. 30-38). At the impartial hearing, the district special education teacher of the 12:1+1 special class placement for the 2015-16 school year (teacher) testified that the student attended her classroom, and he received direct instruction for ELA and mathematics (see Tr. pp. 201, 207).

At the impartial hearing, the teacher testified that upon entering the 12:1+1 special class placement in September 2015, the student was "very quiet " and "needed a lot of visual supports" (Tr. pp. 207-08, 214). She used a "visual schedule" with the student, and she also testified that the student "needed a lot of support and props [sic] to sit and attend in the kindergarten mainstream classroom" (Tr. pp. 208, 211). The teacher noted that an aide would "modify any work for him by highlighting it" and the student "was beginning to trace letters and complete the morning work" (Tr. p. 211).

The evidence in the hearing record demonstrates that by mid-October 2015, the student began performing his morning routine more independently, such as walking down the hall, unpacking his bag with no prompts, going to the table to begin seat work, beginning to write his name (whereas he did not write any letters independently in September 2015), getting his own snack and requesting "'open please,'" sitting at the table and waiting for directions, waiting to be

called for lunch with no prompts, following the calendar routine, and counting to five on the calendar and with popsicle sticks (Dist. Ex. 30; see Tr. pp. 211-12). In addition, the evidence further indicated that the student made "slow progress in completing tasks independently" and had shown "growth since September in a structured environment" (Dist. Ex. 30). The district special education teacher who drafted the document also noted that the student's "language barrier [was] slowing him down from making more progress" (id.).

In addition, the evidence in the hearing record included updates recorded in the present levels of performance within the student's October 2015 IEP (compare Dist. Ex. 32 at pp. 3-4, with Dist. Ex. 33 at pp. 3-4). According to a November 2015 speech-language update, the student made "steady progress" since services began in September 2015, and specified that he was now "using his words more to express himself" and had increased his "use of English words" throughout the school day (Dist. Ex. 33 at p. 3). Additionally, as of November 2015, the student exhibited "some progress with labeling school items, a variety of animals, action words and body parts, as well as answering questions," with decreased echolalic or responses in his native language (id.).[47]

Next, a November 2015 adaptive skills update indicated that the student had "shown progress since September adjusting to a new school and new routine" (Dist. Ex. 33 at p. 4). More specifically, the update revealed that the student could "independently hang up his backpack, unpack his binder, folder, [and] snack, and hang up his coat" (id.). Furthermore, the student was "independently plac[ing] his binder into his bin and [went] to his Kindergarten room to begin his day" (id.).

Finally, a November 2015 cognitive skills update reflected that the student had difficulty "maintaining attention for more than a few minutes on any one specific task unless he [was] being guided 1:1 with teacher prompts" (Dist. Ex. 33 at p. 4). It was also noted that the student exhibited a "high level of distraction during . . . reading group time and require[d] 1:1 teacher assistance to complete tasks during class lessons" (id.). Additionally, the update indicated that the student participated in calendar time by "counting the days of the month, dressing the weather frog appropriately, and choosing the correct pictures to identify the weather" (id.).

Regarding behavior, the teacher testified at the impartial hearing that she disagreed with the assertion in the parents' due process complaint notice, which stated that the student "demonstrated extremely poor behavior in a number of public places" (Tr. p. 236; Joint Ex. 1 at p. 3). Instead, the teacher clarified that the student's behavior was "slightly improving" from September to November (Tr. p. 236; see generally Dist. Ex. 38). In addition, the district speech-language pathologist who provided therapy services to the student in fall 2015 testified that, by November 2015, the student was sitting and attending more, and he improved his attention and listening skills and in his ability to follow more of the routines (Tr. pp. 591, 597, 603, 605). She further testified that the student was making "some really nice progress" on his annual goal identifying pictures, objects, and items, and the student was "really picking up on labels, vocabulary, the names for items, [and] the names for animals" (Tr. pp. 606-07; see Dist. Ex. 35 at p. 4). The speech-language pathologist also reported that the student made "slow" and "steady"

[47] The hearing record also included a 2015-16 progress report about the student's annual goals, which indicated that the student was "progressing satisfactorily" on all of his annual goals (study skills, reading, mathematics, speech-language, and motor skills) (Dist. Ex. 35 at pp. 1-5).

progress on his annual goal answering "'yes, no, and what," questions, and his echolalia decreased (Tr. p. 607; see Dist. Ex. 35 at p. 4).

At the impartial hearing, the speech-language pathologist who provided therapy services to the student at preschool from December 2015 through June 2016 testified that she used both "ABA and non-ABA" approaches with the student, and noted that the student "made progress in both therapy strategies" (see Tr. pp. 660-63; see generally Dist. Ex. 41). She testified that the ABA was "more structured" in a 1:1 setting with the student and while the student made progress, "it was limited" (Tr. p. 661). The speech-language pathologist also testified that the student made the "most progress" during group sessions of therapy (group of 2 students total), when the student worked on his "pragmatic or social language skills" and had the "opportunity to generalize" the skills he was learning (Tr. pp. 661-62).

In addition to the foregoing, the parents questioned the director about the "comprehensive" ABA program the parents wanted for the student (see Tr. pp. 527-529). As part of this line of questioning, the parents referred the director to a report from the student's developmental pediatrician, dated May 2016 (see Tr. pp. 529-32; Parent Ex. JJ at p. 1; Joint Ex. 1 at p. 21). In particular, the parents asked the director if she had seen the "statement" in the report from the pediatrician "that a comprehensive [ABA] program [was] a highly, highly appropriate program for [the student]" (Tr. p. 529; Parent Ex. JJ at p. 1; Joint Ex. 1 at p. 21). The director confirmed that she recalled seeing the May 2016 report, but later clarified that she did not know whether the June 2016 CSE had the May 2016 report (see Tr. pp. 529-30, 572; Parent Ex. JJ at p. 1; Joint Ex. 1 at p. 21). Returning to the May 2016 report, the parents read the sentence directly into the hearing record: "It is highly appropriate that the central part of his intervention should consider a comprehensive [ABA] approach," and then asked the director whether a "doctor might feel uncomfortable about overstepping the boundary in saying that this [was] the program that has to be provided . . . even though that's the appropriate course of action" for a student (Tr. p. 530; Parent Ex. JJ at p. 1; Joint Ex. 1 at p. 21). The director responded "[a]bsolutely"—the parents agreed, noting that this was "exactly the case, that the doctor feels that" and therefore, "he might not write" it in the report, but then further indicated that the pediatrician had "already stated that to [them]" (Tr. pp. 531-32).

However, although the parents believe that the pediatrician withheld a direct recommendation that the student receive a comprehensive ABA program in the report because he felt "uncomfortable," the pediatrician did not testify at the impartial hearing and no further points of clarification were submitted into the hearing record, thus leaving their beliefs regarding the pediatrician's motivations in the category of mere speculation. A review of the May 2016 report reveals that, in addition to the statement reported above, the pediatrician suggested that "continued direct services [were] important" for the student (Parent Ex. JJ at p. 1). In addition, the report indicated that a "comprehensive [ABA] approach . . . might include discrete trial training and other documented methods using ABA" (id.).

Based upon the foregoing, the hearing record does not support the parents' contention that the student needed either a comprehensive ABA program or that ABA should have been the specified methodology for the student in the management section of the June 2016 IEP.

Finally, the parents assert that the district's recommended "Connections" placement—which they characterized as an "eclectic program"—was not appropriate because it was not based upon peer-reviewed research and relied on "IEP progress" to measure gains. State and federal regulations require, in part, that an IEP must include a "statement of the special education and related services and supplementary aids and services, based on peer-reviewed research to the extent practicable, to be provided to the child, or on behalf of the child" (34 CFR 300.320[a][4]; see 8 NYCRR 200.4[d][2][v][b]). According to the Official Analysis of Comments to the federal regulations, the IDEA

> requires special education and related services, and supplementary aids and services, to be based on peer-reviewed research to the extent practicable. States, school districts, and school personnel must, therefore, select and use methods that research has shown to be effective, to the extent that methods based on peer-reviewed research are available. This does not mean that the service with the greatest body of research is the service necessarily required for a child to receive FAPE. Likewise, there is nothing in the Act to suggest that the failure of a public agency to provide services based on peer-reviewed research would automatically result in a denial of FAPE. The final decision about the special education and related services, and supplementary aids and services that are to be provided to a child must be made by the child's IEP Team based on the child's individual needs.

(Statement of Special Education and Related Services, 71 Fed. Reg. 46664-65 [Aug. 14, 2006]; see 20 U.S.C. § 1414[d][1][A][i][IV]).

During the impartial hearing, the "Connections" program was, at times, referred to as an "eclectic" program (Tr. pp. 457-58, 488-89, 528, 565-66). The director testified, however, that the program "utilize[d] research-based strategies pulled from documents that indicate[d] these [were] the best practices instructionally and socially to support students with autism in a school setting" (Tr. p. 489). In particular, the director referenced the "Quality Indicators of Programming for Students with Autism" and documents from the "National Center for Autism" (id.). The director also testified that the district hired teachers with "training and knowledge in working with student with autism" and that those teachers brought their "own expertise in working with those students" to the program (Tr. pp. 489-90). Similarly, the district school psychologist testified that the "Connections" program was developed based upon "best practice" and meta-analysis research from the "National Autism Center" (Tr. pp. 956-65; see Dist. Ex. 50).

While recognizing the IDEA's requirements regarding peer-reviewed research, courts have generally declined to find an IEP or a recommended program was not appropriate on the sole basis that it violated this provision of the IDEA (see Ridley Sch. Dist. v. M.R., 680 F.3d 260, 275-79 [3d Cir. 2012]; Joshua A. v. Rocklin Unified Sch. Dist., 319 Fed. App'x 692, 695 [9th Cir. Mar. 19, 2009] [finding that "[t]his eclectic approach, while not itself peer-reviewed, was based on 'peer-reviewed research to the extent practicable'"]; see also Pitchford v. Salem-Keizer Sch. Dist. No. 24J, 155 F. Supp. 2d 1213, 1230-32 [D. Or. 2001] [rejecting an argument that a district's proposed IEP was not appropriate because it provided for an eclectic program and holding that the district's

offer of FAPE was appropriate notwithstanding its refusal to offer an ABA approach]). I also find that any lack of peer-reviewed research supporting the approaches used in the "Connections" program is not a sufficient basis for finding a violation of the IDEA or attendant State regulations. Consequently, the parents' argument must be dismissed.

C. Pendency

In conjunction with their request for relief, the parents point out that the IHO failed to issue a pendency determination. To justify an award of tuition reimbursement, the parents argue that the 50 to 60 hours per week of home-based ABA services the student received from August 29, 2016 through February 4, 2017—and where the parents, themselves, acted as the ABA providers—constituted the student's pendency placement. As such, the parents seek a determination that the home-based ABA services constituted the student's pendency placement and to be reimbursed for providing those services to the student. In its answer, the district argued that the special education services in District Exhibit 33 represented the student's pendency placement.

The IDEA and the New York State Education Law require that a student remain in his or her then current educational placement, unless the student's parents and the board of education otherwise agree, during the pendency of any proceedings relating to the identification, evaluation or placement of the student (20 U.S.C. § 1415[j]; Educ. Law §§ 4404[4], 4410[7][c]; 34 CFR 300.518[a]; 8 NYCRR 200.5[m]; see Student X v. New York City Dep't of Educ., 2008 WL 4890440, at *20 [E.D.N.Y. Oct. 30, 2008]; Bd. of Educ. of Poughkeepsie City Sch. Dist. v. O'Shea, 353 F. Supp. 2d 449, 455-56 [S.D.N.Y. Jan. 18, 2005]). Pendency has the effect of an automatic injunction, and the party requesting it need not meet the requirements for injunctive relief such as irreparable harm, likelihood of success on the merits, and a balancing of the hardships (Zvi D. v. Ambach, 694 F.2d 904, 906 [2d Cir. 1982]; see Wagner v. Bd. of Educ., 335 F.3d 297, 301 [4th Cir. 2003]; Drinker v. Colonial Sch. Dist., 78 F.3d 859, 864 [3d Cir. 1996]). The purpose of the pendency provision is to provide stability and consistency in the education of a student with a disability and "strip schools of the unilateral authority they had traditionally employed to exclude disabled students . . . from school" (Honig v. Doe, 484 U.S. 305, 323 [1987]; Evans v. Bd. of Educ., 921 F. Supp. 1184, 1187 [S.D.N.Y. 1996], citing Bd. of Educ. v. Ambach, 612 F. Supp. 230, 233 [E.D.N.Y. 1985]). The pendency provision does not mean that a student must remain in a particular site or location (Concerned Parents and Citizens for the Continuing Educ. at Malcolm X Pub. Sch. 79 v. New York City Bd. of Educ., 629 F.2d 751 [2d Cir. 1980]; Application of a Student with a Disability, Appeal No. 08-107; Application of the Bd. of Educ., Appeal No. 07-125; Application of a Child with a Disability, Appeal No. 07-076; Application of the Bd. of Educ., Appeal No. 05-006; Application of the Bd. of Educ., Appeal No. 99-90), or at a particular grade level (Application of a Child with a Disability, Appeal No. 03-032; Application of a Child with a Disability, Appeal No. 95-16).

Under the IDEA, the pendency inquiry focuses on identifying the student's then-current educational placement (Mackey v. Bd. of Educ., 386 F.3d 158, 163 [2d Cir. 2004], citing Zvi D., 694 F.2d at 906). Although not defined by statute, the phrase "then current placement" has been found to mean the last agreed upon placement at the moment when the due process proceeding is commenced (Murphy v. Bd. of Educ., 86 F. Supp. 2d 354, 359 [S.D.N.Y. 2000] aff'd, 297 F.3d 195 [2002]; Application of a Student with a Disability, Appeal No. 08-107; Application of a Child with a Disability, Appeal No. 01-013; Application of the Bd. of Educ., Appeal No. 00-073). The

United States Department of Education has opined that a student's then current placement would "generally be taken to mean current special education and related services provided in accordance with a child's most recent [IEP]" (Letter to Baugh, 211 IDELR 481 [OSERS 1987]; see Susquenita Sch. Dist. v. Raelee, 96 F.3d 78, 83 [3d Cir. 1996]). However, if there is an agreement between the parties on placement during the proceedings, it need not be reduced to a new IEP, and it can supersede the prior unchallenged IEP as the then-current placement (Evans, 921 F. Supp. at 1189 n.3; see Bd. of Educ. v. Schutz, 137 F. Supp. 2d 83 [N.D.N.Y. 2001] aff'd, 290 F.3d 476, 484 [2d Cir. 2002]; see also Letter to Hampden, 49 IDELR 197 [OSEP 2007]). Moreover, a prior unappealed IHO's decision may establish a student's current educational placement for purposes of pendency (Student X, 2008 WL 4890440 at *23; Letter to Hampden, 49 IDELR 197; Application of a Student with a Disability, Appeal No. 08-107; Application of a Student with a Disability, Appeal No. 08-050; Application of the Dep't of Educ., Appeal No. 08-009; Application of the Dep't of Educ., Appeal No. 07-140; Application of the Dep't of Educ., Appeal No. 07-134).

On the penultimate date of the impartial hearing, the IHO asked the parties to present their respective positions with respect to the student's pendency placement (see Tr. pp. 857, 859). The district asserted that District Exhibit 33—which arose from a resolution agreement between the parties—was the last-agreed upon IEP (see Tr. p. 859; Dist. Exs. 33; 39). The parents essentially agreed, but further asserted that the "last-agreed upon IEP was a placement at [the preschool]," and pointed to the contents of the resolution agreement to support their assertion (Tr. pp. 860-63; see Dist. Ex. 39). The district's attorney noted, however, that the last-agreed upon IEP did not "specify [the preschool]"; instead, the IEP "specified specialized services" (Tr. pp. 862-63).

As noted above; however, the parents now argue that the student's home-based ABA services, which began on August 29, 2016, constitute the student's pendency placement. In this case, focusing the inquiry on the last agreed upon placement at the moment when the due process proceeding was commenced—here, August 5, 2016—leads to the conclusion that the student's home-based ABA services, which began on August 29, 2016, cannot be the student's pendency placement (see Murphy, 86 F. Supp. 2d at 359), and therefore, the parents are not entitled to reimbursement for the ABA services they provided to the student on this basis. Instead, it appears that the special education services set forth in the resolution agreement—and thereafter, reduced to the IEP entered into the hearing record as District Exhibit 33—represents the student's last agreed upon placement at the time the parents commenced the due process proceeding. Consequently, the parents' request to be reimbursed for providing the student's home-based ABA services must be dismissed.

D. Relief

Next, the parents argue that they are entitled to reimbursement for providing the student's home-based ABA services because the ABA therapy and educational program delivered to the student was a unilateral placement. In addition, the parents seek an order directing the district to design and create a classroom with, not only specific teacher and provider qualifications, but also with specific quality control measures for the classroom and for the other students expected to populate the classroom. The district generally argues that there is no basis or authority for the relief requested by the parents.

Initially, I decline to find on this record that the parents provided the student's home-based ABA therapy and educational program as a unilateral placement for which they can receive reimbursement. Rather, the evidence in the hearing record reveals that, at the time of the impartial hearing, the parents elected to homeschool the student for approximately five hours per day during the week and eight to nine hours per day on weekends, and the student was not enrolled in either a public or nonpublic school (Tr. pp. 20-22). In addition, the parents had enrolled the student in a "daycare" for approximately four hours per day (id.). When the parents stated that they were homeschooling the student, the district's attorney specifically asked whether parents had filed an individualized home instruction plan (IHIP), and at that time, the parents responded that they had not yet done so (see Tr. pp. 21-22). Upon learning that the parents were home schooling the student and had failed to file an IHIP, the district's attorney told the parents that they needed to "do that immediately" (Tr. p. 22).[48] Moreover, the evidence in the hearing record does not include any notification by the parents that they intended to withdraw the student from the district and seek reimbursement for services, such as the 10-day notice of unilateral placement called for by the IDEA (20 U.S.C. § 1412[a][10][C][iii][I]; see 34 CFR 300.148[d][1]). Thus, other than the parents now requesting reimbursement for delivering the home-based ABA therapy and educational program as a unilateral placement, the hearing record contains no evidence that I find is an appropriate basis upon which to predicate an award of tuition reimbursement as envisioned under Burlington/Carter.[49]

Next, the hearing record does not contain evidence to support the parents' request for an order directing the district to design and create a classroom for the student with the requirements proposed by the parents. Simply stated, as noted above, the Court in T.M. noted, the IDEA does not require a district to create a "new" program "just to serve the needs of one disabled child" (T.M., 752 F.3d at 165-66 [internal citations omitted]). Instead, a district "may choose to place the child in a private . . . program, or a . . . program operated by another public entity" (T.M., 752 F.3d at 166). However, because the district failed to consider the extent to which the Connections program was a removal from the general education setting that was inconsistent with the requirement to place the student in the LRE, I will direct the CSE to reconvene to ensure that the IEP programing offered to the student from this point forward is consistent with the LRE requirements as set forth in Newington and Cornwall.[50]

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[48] Shortly after the parents filed this appeal with the Office of State Review, correspondence directed to this office indicated that the parents were directed to enroll the student at the district's elementary school through a Family Court order. Subsequent correspondence revealed that the parents opted to enroll the student in a nonpublic school program.

[49] To the extent that the parents point to authority outside this circuit to support their argument, it is not persuasive under these facts (see Bucks County Dep't of Mental Health/Mental Retardation v. Pennsylvania, 379 F.3d 61, 66-75 [3d Cir. 2004] [holding that a parent was entitled to reimbursement for providing services to her disabled daughter after the county refused to provide the therapy]).

[50] Even if the student must be removed from the general education setting for some portion of the school day in order to receive sufficient educational benefits, the second factor of Newington requires the district to be able to explain how it has ensured that the student is otherwise mainstreamed to the maximum extent appropriate.

VII. Conclusion

In summary, the evidence in the hearing record establishes that, contrary to the IHO's determination, the district failed to offer the student a FAPE in the LRE for the 2016-17 school year.

THE APPEAL IS SUSTAINED TO THE EXTENT INDICATED.

IT IS ORDERED that the IHO's decision, dated December 30, 2016, is modified by reversing those portions which 1) ruled on the procedural adequacy for developing the IEP and 2) substantively determined that the district's programing offered the student a FAPE in the LRE for the 2016-17 school year; and

IT IS FURTHER ORDERED that the district shall reconvene the CSE within 30 days from the date of this decision to consider the extent to which a Newington/Cornwall analysis requires that the student be placed with non-disabled peers when receiving his special education services in order to satisfy the IDEA's requirement for placement in the LRE.

Dated: **Albany, New York**
April 3, 2017

JUSTYN P. BATES
STATE REVIEW OFFICER

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A comparison of intensive behavior analytic and eclectic treatments for young children with autism

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Abstract

We compared the effects of three treatment approaches on preschool-age children with autism spectrum disorders. Twenty-nine children received intensive behavior analytic intervention (IBT; 1:1 adult:child ratio, 25–40 h per week). A comparison group ($n = 16$) received intensive "eclectic" intervention (a combination of methods, 1:1 or 1:2 ratio, 30 h per week) in public special education classrooms (designated the AP group). A second comparison group (GP) comprised 16 children in non-intensive public early intervention programs (a combination of methods, small groups, 15 h per week). Independent examiners administered standardized tests of cognitive, language, and adaptive skills to children in all three groups at intake and about 14 months after treatment began. The groups were similar on key variables at intake. At follow-up, the IBT group had higher mean standard scores in all skill domains than the AP and GP groups. The differences were statistically significant for all domains except motor skills. There were no statistically significant differences between the mean scores of the AP and GP groups. Learning rates at follow-up were also substantially higher for children in the IBT group than for either of the other two groups. These findings are consistent with other research showing that IBT is considerably more efficacious than "eclectic" intervention.
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1. Introduction

Early intervention targets differences between the skills of children who have or are at risk for developmental delays and the skills of their typically developing peers. Those discrepancies may be small initially but are generally acknowledged to increase with the passage of time (e.g., Guralnick, 1998; Ramey & Ramey, 1998). Developmental trajectories are not fixed, however, even for children with known risk factors or disabilities. Instead, each child's progress can be influenced by many factors, such as experience. As Ramey and Ramey (1998) noted, "... a widespread hope for early intervention (is) ... that children could be placed on a normative developmental trajectory and thus continue to show optimal development after early intervention ends" (p. 113). Accordingly, they posited a "zone of modifiability," a period of time during which the precise developmental trajectory for children at risk is likely determined by the timing, intensity, and appropriateness of treatment. Convergent evidence supporting this hypothesis has come from a variety of sources. Longitudinal studies (e.g., the North Carolina Abecedarian Project, Infant Health and Development Program) demonstrated that the effects of early intervention on children at risk for developmental delay and mental retardation were evident when the children were 3 years old, and some gains were maintained into adolescence and adulthood (Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001; Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002; for a review, see Ramey & Ramey, 1999). The likelihood that effective early intervention can produce lasting neurobiological as well as behavioral changes has been suggested by research showing that early experiences play a critical role in shaping brain architecture as well as brain function (Dawson & Fischer, 1994; Shore, 1997). Additionally, studies have shown that specific types of interactions with the physical and social environment can remediate some types of damage to the central nervous system (e.g., Hannigan & Berman, 2000). In a series of studies using mouse models of some mental retardation syndromes and neurological disorders, Schroeder, Tessel, and their colleagues demonstrated that behavior analytic discrimination training reversed abnormalities in brain structures and neurotransmitter levels as well as learning and behavior. Training was most effective when it began early in development (Loupe, Schroeder, & Tessel, 1995; Stodgell, Schroeder, & Tessel, 1996; Tessel, Schroeder, Loupe, & Stodgell, 1995; VanKeuren, Stodgell, Schroeder, & Tessel, 1998).

Findings from early intervention research indicate that treatment that is intensive, long in duration, and delivered directly to children (rather than just to their caregivers) produces better outcomes than treatment that lacks those elements (Ramey & Ramey, 1998, 1999). Few of those variables have been isolated and investigated in controlled studies, however. For example, despite the apparent relationship between the intensity of early intervention and outcome (e.g., Guralnick, 1998), there has been little experimental research on the effects of treatment intensity or duration. Nor has there been much research on the relation between type of early intervention and outcomes. Guralnick (1998) argued that the next generation of research in early intervention must progress beyond basic demonstrations of its effectiveness. There is a need for studies that delineate which aspects of early intervention are most efficacious, and for which populations. A better understanding of the optimal timing, intensity, duration, and type of intervention could benefit all children who

have or are at risk for developmental delays. Given the reported recent increase in the number of children diagnosed with autism spectrum disorders, such issues may be particularly germane to this population (e.g., California Department of Developmental Services, 2003a; Yeargin-Allsop et al., 2003; but see Fombonne, 2001, 2003 for critiques of such reports). In addition, the cost of lifespan services for people with autism may be disproportionately higher than the cost of serving individuals with other disabilities (e.g., California Department of Developmental Services, 2002, 2003b). Effective early intervention can substantially reduce those costs (Jacobson, Mulick, & Green, 1998). Therefore, there are several compelling reasons to examine outcomes produced by various types of early intervention for children with autism.

There is considerable empirical evidence that early intensive behavior analytic intervention produces large and lasting functional improvements in many children with autism. Although a number of behavior analysts have been documenting the effectiveness of behavior analytic intervention for individuals with autism since the early 1960s (e.g., Ferster & DeMyer, 1961; Wolf, Risley, & Mees, 1964; see also Matson, Benavidez, Compton, Paclawskyj, & Baglio, 1996), a study by Lovaas (1987) was singular for documenting substantially improved functioning in a sizeable proportion of children who received comprehensive, intensive, long-duration behavior analytic intervention starting before they reached 4 years of age. Nine of 19 children in that study who received early intensive behavior analytic treatment for at least 2 years had cognitive and language test scores in the normal range by the age of 6–7 years and completed first grade without special instruction. In contrast, few gains were made by children with autism in two control groups who received either 10 h of behavior analytic treatment per week or typically available community services over the same time period. A follow-up study found that the "best outcome" children from the Lovaas (1987) study continued to function normally into adolescence (McEachin, Smith, & Lovaas, 1993).

Several studies of comprehensive, intensive behavior analytic treatment for young children with autism spectrum disorders have been published prior to and since the Lovaas (1987) study. Collectively, these studies have documented the efficacy of intensive behavior analytic intervention, both center-based (e.g., Eikeseth, Smith, Jahr, & Eldevik, 2002; Fenske, Zalenski, Krantz, & McClannahan, 1985; Harris, Handleman, Gordon, Kristoff, & Fuentes, 1991) and home-based (e.g., Anderson, Avery, DiPietro, Edwards, & Christian, 1987; Birnbrauer & Leach, 1993; Smith, Groen, & Wynne, 2000; Weiss, 1999). In several studies, standardized test data indicated that cognitive functioning, language skills, and academic performance approached or exceeded normal levels in many children who received at least 2 years of early intensive behavior analytic treatment (for a review, see Green, 1996; Smith, 1999). Instruments such as the Vineland Adaptive Behavior Scales also detected substantial improvements in adaptive functioning (Anderson et al., 1987; Birnbrauer & Leach, 1993; Smith et al., 2000; Weiss, 1999). Similar outcomes have been documented in systematic case studies in which independent evaluators used objective measurement instruments to track children's progress (Green, Brennan, & Fein, 2002; Perry, Cohen, & De Carlo, 1995). Finally, parents whose children received intensive behavior analytic intervention showed high satisfaction and reduced stress over the course of treatment in comparison to parents whose children did not receive intensive behavior analytic intervention (Anderson et al., 1987; Birnbrauer & Leach, 1993; Smith et al., 2000).

Although all published studies of early intensive behavior analytic treatment demonstrated that many children made substantial gains, outcomes varied within and across studies. The proportions of intensively treated children who achieved normal or near-normal functioning, more modest improvements, and relatively small improvements varied from study to study (Green, 1996; Smith, 1999). For instance, a smaller percentage of children in the Smith et al. (2000) study were able to function independently in regular classrooms post-treatment than was reported by Lovaas (1987), and no children were reported to be enrolled in general education settings without supports in the Anderson et al. (1987) and Birnbrauer and Leach (1993) studies. Those studies differed in several important ways from the Lovaas (1987) study, however. None involved the 40 h of intensive treatment per week that was provided to the experimental group in the Lovaas (1987) study. Additionally, participants in those studies had lower pre-treatment language and IQ scores and received intervention for a shorter period of time than their counterparts in the Lovaas (1987) study. There were also methodological differences across studies: some were quasi-experimental while others used true experimental designs, and few assigned participants to groups randomly (see Green, 1996; Kasari, 2002; Rogers, 1998; Smith, 1999). Indeed, although some partial and systematic replications of the Lovaas (1987) study have been published, so far no full replications (40 h of treatment per week for a minimum of 2 years; multiple outcome measures; at least one control group) have appeared in the literature. Nevertheless, as an aggregate, the published studies offer compelling evidence that many children with autism who received early intensive behavior analytic treatment made substantial gains.

In contrast, there is little objective empirical evidence regarding the efficacy of non-behavior analytic intervention models such as Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH; e.g., Schopler, 1997) or developmental approaches, such as the Colorado Health Sciences Program (Rogers & DiLalla, 1991; Rogers, Herbison, Lewis, Pantone, & Reis, 1986). Of the total of 15 early autism intervention outcome studies evaluated in three separate reviews, only five were evaluations of what the authors characterized as non-behavior analytic treatments. Reported treatment effects consisted of small mean gains in standardized test scores (e.g., IQ, language) or changes in developmental levels on measures not widely employed to assess children with autism; all had serious methodological limitations. Further, no studies comparing early intensive behavior analytic treatment directly with TEACCH, Colorado Health Sciences, or any other comprehensive treatment model have been published to date (Kasari, 2002; Rogers, 1998; Smith, 1999). Several studies, however, have compared outcomes of intensive behavior analytic treatment with those resulting from standard interventions that are typically provided to children with autism through public early intervention and special education programs. In the Lovaas (1987) study, the 41 participants in control groups 1 and 2 were described as receiving treatments consisting of "resources in the community such as those provided by small education classes." Control group 1 also received behavior analytic treatment for 10 h per week. Few gains were documented for children in those groups over the course of 2 or more years of treatment. Similarly, a comparison group of children in the study by Smith et al. (2000) who were enrolled in public schools for 10 to 15 h per week made little improvement.

Recently Eikeseth et al. (2002) compared the effects of intensive behavior analytic treatment with equally intensive and relatively well-specified "eclectic" treatment that is similar to the type of intervention that many children with autism receive in public schools and some private programs. These investigators studied the effects of intervention provided for 28 h per week for 1 year on children with autism who were 4–7 years of age when they entered treatment. Thirteen children received behavior analytic intervention, while 12 other children received intensive treatment using a combination of methods including discrete trial training, TEACCH-based procedures, and sensory integration therapy. All children received 1:1 treatment from therapists who all had similar educational backgrounds and training. Each therapist received weekly consultation from behavior analysts. Additional training was provided to parents and therapists of children in the intensive behavior analytic treatment group. After 1 year the children in the behavior analytic treatment group performed substantially better on standardized measures of cognitive, language, and adaptive functioning than the children in the intensive "eclectic" treatment group. For example, children in the behavior analytic treatment group gained an average of 17 points on standardized measures of cognitive functioning. At follow-up, seven children in the behavior analytic treatment group achieved scores in the normal range of functioning, while only two children in the "eclectic" treatment group produced scores in the normal range. These results suggested that the type, rather than the intensity, of treatment accounted for the outcomes produced by intensive behavior analytic treatment.

"Eclectic" intervention like that provided to children in the comparison group in Eikeseth et al. (2002) study is widely available to children with autism enrolled in public early intervention and special education programs. Yet little evidence about the efficacy of that approach has appeared in the research literature to date. The study described here was a prospective analysis of the effects of three different early intervention approaches on young children with autism spectrum disorders. Interim (14 months) outcomes for children who participated in an intensive behavior analytic treatment program were compared with those of children who received intensive "eclectic" intervention in classrooms designed exclusively for children with autism and children in non-intensive, generic early intervention programs.

2. Method

2.1. Participants

2.1.1. Referral and selection

The participants were 61 children diagnosed with autistic disorder or pervasive developmental disorder—not otherwise specified (PDD-NOS). Potential participants were referred by non-profit agencies ("regional centers") under contract with the State of California Department of Developmental Services to provide case management for individuals with developmental disabilities. Referred children were screened for the following eligibility criteria: (a) diagnosis of autistic disorder or PDD-NOS according to DSM-IV criteria by qualified independent examiners before the child was 48 months of age; (b) entry into an intervention program before 48 months of age; (c) English as the

primary language spoken in the child's home; (d) no significant medical condition other than autistic disorder or PDD-NOS; and (e) no prior treatment of more than 100 h.

Under an existing collaborative funding agreement between public schools and regional centers in the region where the study was conducted, individualized education plan (IEP) and individualized family service plan (IFSP) teams for young children with autism spectrum disorders routinely consider a range of educational options. These include but are not limited to: early intensive behavior analytic treatment (IBT) from non-public agencies; autism educational programming (AP) delivered in special education classrooms designed specifically for children with autism spectrum disorders; and generic educational programming (GP) for children with various diagnoses. Auxiliary services, such as occupational therapy and speech and language therapy, can also be considered and recommended by the IEP or IFSP teams. Although educational placement decisions regarding participants in this study were made by IEP or IFSP teams, parental preferences weighed heavily.

Eligibility criteria were met by 37 children who received IBT intervention from a non-public agency and 41 children who were enrolled in AP or GP programs operated by local school districts and counties from 1996 through 2003. Four children who began in the IBT group were excluded from analysis because they did not complete 7 months of intervention. Two of those children were just 2 years old when intervention began. They acquired some non-verbal skills, but their receptive and expressive language skills did not improve, and behavioral difficulties increased when the full number of intervention hours was attempted. This led their IFSP teams to recommend transition to less intensive school programs. The third child left the IBT group because the child's parents were not able to accommodate an intensive intervention program at home, and the fourth child moved out of the state. Four children who were placed in either AP or GP were excluded because their parents could not be contacted to arrange follow-up testing despite repeated attempts (3 children), or because the parent did not allow the child to be tested at follow-up (1 child). Nine other children (4 in the IBT group and 5 in the AP and GP groups) were excluded because more than 18 months elapsed between intake and opportunity for follow-up. Because the follow-up testing did not occur, it was not possible to confirm the treatment group placement (AP or GP) for those five participants. Remaining for analysis were intake and follow-up data for 29 children who received IBT, 16 children in AP, and 16 children in GP.

2.1.2. Characteristics

Table 1 summarizes the gender, ethnicity, diagnosis, and parents' marital status of the participants. The three groups of children were very similar on all of those characteristics at intake. Although the percentage of children with a given characteristic varied somewhat from one group to another, none of the differences between group means was statistically significant.

Table 2 summarizes the mean severity of autism (determined by the number of DSM-IV criteria for autistic disorder met) and chronological age of the participants in each group, and the mean educational levels of the participants' parents. Children in the IBT group were diagnosed at a younger age than children in the autism program, who in turn were diagnosed at a younger age than children in the generic program. Children in the IBT group also began treatment earlier, and had earlier follow-up testing, than children in the AP and GP groups. Parents of children in the IBT group averaged 1–2 more years of education than

Table 1
Number of participants with each characteristic

Characteristic	Treatment group		
	IBT	AP	GP
Gender			
Male	25 (86%)	13 (81%)	16 (100%)
Female	4 (14%)	3 (19%)	0 (0%)
Ethnicity			
Both parents Caucasian	21 (72%)	6 (50%)	8 (57%)
One or both parents Hispanic	4 (14%)	3 (25%)	4 (29%)
Other	4 (14%)	3 (25%)	2 (14%)
Unknown	0	4	2
Diagnosis			
Autism	24 (83%)	12 (75%)	9 (56%)
PDD-NOS	5 (17%)	4 (25%)	7 (44%)
Parents' marital status			
Married	23 (79%)	12 (80%)	9 (56%)
Not married, divorced, or separated	6 (21%)	3 (20%)	7 (44%)
Unknown	0	1	0

Note. Percentages are within each treatment group, excluding participants with unknown characteristics.

parents of children in the other two groups. All of those differences were statistically significant, and were controlled for in subsequent analyses.

2.2. *Interventions*

Participants' files, including IFSP or IEP documents for the year following diagnosis, were reviewed to determine services received, educational placement, and number of hours

Table 2
Mean severity of autism, age (months), and parents' education level

Measure	IBT		AP		GP		IBT mean minus AP/GP mean	AP mean minus GP mean
	M	S.D.	*M*	S.D.	*M*	S.D.		
Severity (no. of DSM-IV criteria)	7.55	1.39	7.27	1.56	7.33	2.02	.25	−.06
Age at diagnosis	30.48	5.96	39.31	5.52	34.94	5.18	−6.65**	4.37*
Age at intake	30.86	5.16	37.44	5.68	34.56	6.53	−5.16**	2.84
Age at follow-up	45.66	6.24	50.69	5.64	49.25	6.81	−4.31*	1.44
Months between intake and follow-up	14.21	2.24	13.25	2.84	14.75	1.88	.21	1.50
Mother's years of education	14.10	2.34	13.00	1.83	13.00	1.41	1.10*	.00
Father's years of education	14.62	2.77	13.13	2.56	13.00	1.81	1.56*	.13
Parents' mean years of education	14.36	2.22	13.06	1.82	12.97	1.36	1.35**	.09

Note. For the IBT group $n = 29$, except for severity ($n = 20$). For the AP group $n = 16$, except for severity ($n = 11$) and father's years of education ($n = 15$). For the GP group $n = 16$, except for severity ($n = 12$) and father's years of education ($n = 15$).

* Difference between means is statistically significant ($p < .05$).

** Difference between means is statistically significant ($p < .01$).

of intervention per week for each child in the AP and GP groups. For those groups, classroom and intervention descriptions were obtained through direct observation of the programs, interviews with classroom and administrative staff of those programs, and interviews with regional center staff familiar with the programs. The first two authors, who directed the IBT program, provided information about that intervention.

2.2.1. Intensive behavior analytic treatment (IBT)

Children in the IBT group received intervention in multiple settings including home, school, and the community. Intensive treatment was defined as 25–30 h per week of 1:1 intervention for children under 3 years of age and 35–40 h of 1:1 intervention for children over 3 years of age. Children had 50–100 learning opportunities per hour presented via discrete trial, incidental teaching, and other behavior analytic procedures (see Anderson & Romanczyk, 1999; Green, 1996; Hall, 1997). Instruction occurred during formal, structured sessions as well as less structured situations, such as supervised play dates with typically developing peers.

Each child's program comprised individualized goals and objectives derived from ongoing evaluations employing both standardized tests and direct observational measurement. Programs similar to those described in several treatment manuals (e.g., Maurice, Green, & Foxx, 2001; Maurice, Green, & Luce, 1996) were delivered using a combination of behavior analytic techniques, including general case programming to maximize skill generalization and most-to-least prompt and prompt-fading procedures to minimize errors during skill acquisition. Children were taught to select their own reinforcers, record their own performances, and sequence their learning activities as appropriate for each child. Direct observational data on each child's progress were reviewed by program supervisors several times each week, and intervention procedures (e.g., reinforcers, instructions, prompts, pacing of learning opportunities, etc.) were modified as needed.

Each child's programming was delivered by a team of 4–5 instructional assistants, each of whom worked 6–9 h per week with the child. Instructional assistants were employed part-time while they attended college. They were trained and supervised by staff with master's degrees in psychology or special education and coursework as well as supervised practical experience in applied behavior analysis with children with autism. Some supervisors were assisted by staff with bachelor's degrees and (typically) graduate coursework in behavior analysis. Each supervisor was responsible for programming for 5–9 children and worked under the direction of a Board Certified Behavior Analyst who was also a licensed psychologist (the first author) and a licensed speech and language pathologist (the second author). Parents received training in basic behavior analytic strategies, assisted in the collection of maintenance and generalization data, implemented programs with their children outside of regularly scheduled intervention hours, and met with agency staff one to two times a month. No additional services, such as occupational therapy or individual or small group speech therapy, were provided to the children in the IBT group. Although efforts were made to ensure treatment integrity (e.g., through frequent direct observation and videotaping of staff implementing procedures with children, and frequent feedback from supervisors), no formal measurement of treatment integrity was undertaken.

2.2.2. Autism educational programming (AP)

Children in the AP comparison group were enrolled in public school classrooms designed for children with autism. The staff:child ratio was 1:1 or 1:2, depending on individual needs and the structure of the particular program in which each child was enrolled. A credentialed special education teacher supervised the work of 4–8 paraprofessional aides in each classroom. Staff provided 25–30 h of intervention each week, utilizing a variety of methods designed primarily for children with autism spectrum disorders. They included discrete trial training, Picture Exchange Communication System (PECS; Bondy & Frost, 1994), sensory integration therapy, and activities drawn from the TEACCH model. In addition, other activities common to preschool programs for typically developing children (e.g., "circle time" and music activities) were incorporated into daily routines. Classroom teachers received consultation from staff with 1–2 years of graduate-level coursework in behavior analysis but who had not yet completed masters' degrees. Seven of the 16 children in the autism programs also received individual or small group speech therapy sessions one to two times weekly from a certified speech and language pathologist. No measures of the integrity of this treatment were available.

2.2.3. Generic educational programming (GP)

Children in the GP comparison group were enrolled in local community special education classrooms identified as early intervention or communicatively handicapped preschool programs. Those programs served children with a variety of disabilities, and provided an average of 15 h of intervention per week, with a 1:6 adult:child ratio. Each classroom was staffed by credentialed special education teachers or certified speech and language pathologists who supervised 1–2 paraprofessional aides. Educational activities were described as "developmentally appropriate," with an emphasis on exposure to language, play activities, and a variety of sensory experiences. Thirteen of the 16 children in this group also received individual or small group speech and language therapy sessions one to two times weekly from a certified speech and language pathologist. No operational definitions of this intervention were available, nor were measures of treatment integrity.

2.3. Dependent measures

Assessments were conducted by experienced psychologists and speech and language pathologists who were independent contractors with the local regional center and who were not involved in delivering treatment to any of the children in the study. A test battery developed by regional center staff to measure intellectual, non-verbal problem solving, language, and adaptive skills was administered annually to all children with autism spectrum disorders below 6 years of age in the region. Assessments were conducted in the child's home, in a clinician's office, or at the regional center as agreed to by the assessors and the parents. Intake testing of participants in this study was conducted within 2 months of treatment entry. Follow-up testing occurred an average of 14 months after treatment entry. The previously described educational placement data were gathered concurrently with follow-up testing. Some children did not complete the entire test battery at intake or follow-up. Table 3 summarizes the numbers of children in each group for whom scores were available at intake and follow-up for each dependent measure.

Table 3
Number of children for whom dependent measures were available at intake and follow-up

Measure	Intake/follow-up		
	IBT	AP	GP
Standard scores			
Cognitive	28/26	16/16	16/16
Non-verbal	21/24	16/16	13/15
Receptive	25/26	16/15	13/14
Expressive	25/26	16/15	13/14
Communication	28/25	16/16	15/16
Self-help	28/25	16/16	14/16
Social	28/25	16/16	14/16
Motor	28/25	16/16	13/16
Composite	26/25	16/16	13/16
Age equivalents			
Cognitive	25/0	11/0	10/0
Non-verbal	21/24	16/16	12/15
Receptive	29/26	16/15	15/13
Expressive	29/26	16/15	15/13
Communication	29/25	16/16	15/16
Self-help	29/25	16/16	15/16
Social	28/25	16/16	15/16
Motor	28/25	16/16	14/16
Learning rate			
Non-verbal	21/21	16/16	12/12
Receptive	29/26	16/15	15/12
Expressive	29/26	16/15	15/12
Communication	29/25	16/16	15/15
Self-help	29/25	16/16	15/15
Social	28/24	16/16	15/15
Motor	28/24	16/16	14/14

2.3.1. Cognitive skills

The standard administration of the Bayley Scales of Infant Development-Second Edition (BSID-II; Bayley, 1993) provided intake measures of intellectual functioning for 42 participants. The BSID-II is widely used with both typical children and children with autism in the age group encompassed by this study (standard scores are available for ages 2–42 months). The BSID-II yields a mental development index (MDI), which was used as the standard score for intellectual functioning in our analyses. Other tests of cognitive skills administered at intake were the Wechsler Primary Preschool Scales of Intelligence—Revised (WPPSI-R; Wechsler, 1989; 10 children), Developmental Profile-II (DP-II; Alpern, Boll, & Shearer, 1986; 3 children), and the Stanford-Binet Intelligence Scale, Fourth Edition (S-B; Thorndike, Hagen, & Sattler, 1986; 2 children). In addition, the Differential Abilities Scale (DAS; Elliott, 1990), Developmental Assessment of Young Children (DAYC; Voress and Maddox, 1998Voress & Maddox, 1998) and the Psychoeducational Profile—Revised (PEP-R; Schopler, Reichler, Bashford, Lansing, & Marcus, 1990) were administered to one child each. One child did not receive a test of intellectual functioning at intake.

The test used at follow-up varied with the chronological age of the child. Most children received the WPPSI-R (47 children). For those children the full-scale IQ score represented the standard score for cognitive functioning in our analyses. Other tests administered at follow-up were the BSID-II (4 children), Stanford-Binet (3 children), and the DAS (2 children). Three children did not receive tests of intellectual functioning at follow-up, and 2 others (1 in the AP group and 1 in the IBT group) were deemed "untestable" by the evaluators when the WPPSI-R was attempted.

2.3.2. Non-verbal skills

The Merrill-Palmer Scale of Mental Tests (Stutsman, 1948) was administered to 48 children at intake and 54 children at follow-up. It assesses visual-spatial skills and has norms available for ages 18–78 months. The instrument is widely used due to its appealing materials, "hands-on" nature, and minimal attention demand characteristics. There is also evidence that it has predictive validity with non-verbal young children (Lord and Schopler, 1989Lord & Schopler, 1989). Test scores are expressed as standard scores and age equivalents. Non-verbal skills for one child were assessed by the Stanford-Binet Performance Test. One child received the Leiter International Performance Scale—Revised (Leiter-R; Roid and Miller, 1997Roid & Miller, 1997) at follow-up.

2.3.3. Receptive and expressive language

The Reynell Developmental Language Scales (Reynell & Gruber, 1990) were used to assess receptive and expressive language development for 46 children at intake and 47 children at follow-up. This instrument expresses scores in developmental ages, standard scores, and percentiles relative to a normative group. It is also widely used to test young children with autism due to its colorful materials, reliance on motor responses, and minimal attention demand characteristics. Other tests of language functioning administered at intake were the Rossetti Infant-Toddler Language Scale (Rossetti, 1990; 5 children), the Receptive-Expressive Emergent Language Scales—Revised (REEL-2; Bzoch & League, 1991; 3 children) and the Preschool Language Scale-3 (PLS-3; Zimmerman, Steiner, & Pond, 1992; 3 children). The Infant-Toddler Developmental Assessment (Provence, Eriksen, Vater, & Palmeri, 1985), the Peabody Picture Vocabulary Test—3rd edition (PPVT-III; Dunn & Dunn, 1997) in conjunction with the Expressive Vocabulary Test (EVT; Williams, 1997), and the language scale of the DP-II were also used to assess language development at intake (1 child each). Other tests administered at follow-up were the Sequenced Inventory of Communication Development—Revised Edition (SICD-R; Hedrick, Prather, & Tobin, 1984; 3 children), the PLS, and the PPVT-III in conjunction with the EVT (2 children each). One child was assessed at follow-up with both the Expressive One-Word Picture Vocabulary Test (EOWPVT; Brownell, 2000a) and the Receptive One-Word Picture Vocabulary Test (ROWPVT; Brownell, 2000b). One child did not receive a language functioning test at intake, and six children did not receive follow-up language tests.

2.3.4. Adaptive skills

The Vineland Adaptive Behavior Scales: Interview Edition (VABS; Sparrow, Balla, & Cicchetti, 1984) was administered both at intake (54 children) and follow-up (56 children)

to the parents or primary caregivers of all participants in the study. The VABS is the most widely used assessment of adaptive skills and is viewed as a valid measure of overall adjustment in children with autism spectrum disorders (Klin, Carter, & Sparrow, 1997; Newsom & Hovanitz, 1997). The VABS yields a composite score expressed as a standard score and four domain scores (communication, daily living, socialization, and motor skills), expressed either as standard scores or age equivalents. All were used in our analyses. Other intake tests of adaptive skills were the personal adjustment or self-help subscales of the Denver Developmental Screening Test II (Frankenburg, Dodds, Archer, Shapiro, & Bresnick, 1992; 3 children), the DP-II (Alpern et al., 1986; 1 child), and the Rockford Infant Development Evaluation Scales (RIDES; Project RHISE, 1979; 1 child each). Two children did not receive tests of adaptive skills at intake, and 6 children did not receive follow-up tests of adaptive skills.

2.4. Data analyses

In our statistical analyses we were primarily interested in comparing the test scores of children in the IBT group with those of children in the AP and GP groups, to determine the efficacy of IBT relative to the other forms of treatment. A secondary comparison of interest (statistically orthogonal to the comparison of primary interest) was between the test scores of children in the AP group and those of children in the GP group, to determine if the effects of those two forms of treatment differed from each other. Several statistical approaches are available to make these comparisons, including *t* tests and planned contrasts. We sought to avoid approaches (such as *t* tests) that evaluate data at the group level, because they cannot readily accommodate individual differences. This was a concern in our study, because the average age at diagnosis differed between the three groups of children, and because parents of children in the IBT group were more educated, on average, than parents of the children in the other two groups. Accordingly, we used multiple regression to compare the three groups of children while controlling for individual differences in age at diagnosis and parental education.

For the multiple regression analyses, we created a variable that was used to compare the children in the IBT group with the children in the AP and GP groups by assigning a numeric code of 1 to children in the IBT group and a numeric code of −1 to children in the other groups. Similarly, we created a variable that was used to compare the children in the AP group with the children in the GP group by assigning a numeric code of 0 to children in the IBT group, a numeric code of −1 to children in the AP group, and a numeric code of 1 to children in the GP group. All analyses included both of these variables. All analyses also included age at diagnosis and parents' mean level of education, to control for the potential influence of those two variables. The parents' mean level of education was used instead of entering maternal and paternal education levels as separate variables, because the maternal and paternal years of education were highly correlated ($r = .52$).

The children in the IBT group were younger, on average, than the children in the other two groups at both intake and follow-up testing. No specific correction was made for age at testing, however. Such a correction could only have affected analyses of age equivalents; standard scores and learning rates already correct for age at testing. Furthermore, by controlling for age at diagnosis we essentially controlled for age at testing as well, because

age at diagnosis was highly correlated with age at intake testing ($r = .78$) and age at follow-up testing ($r = .79$).

Learning rates prior to intake were calculated for non-verbal, receptive language, expressive language, communication, daily living, social, and motor skills by dividing the age equivalent at intake by the child's chronological age in months. Non-verbal learning rates were based on the age equivalent scores derived from the Merrill-Palmer. Receptive and expressive language learning rates were calculated using age equivalents from standardized language assessments. Communication, daily living, social, and motor learning rates were derived from age equivalent scores on the VABS. Learning rates during the intervention period were calculated by subtracting the intake age equivalent score on the measure in question from the age equivalent score at follow-up, and then dividing by the interval between intake and follow-up testing.

3. Results

3.1. Intake

At intake there was clear evidence of developmental delay in all three groups of children. For most skill domains, the mean standard scores for all three groups were substantially below 100, and the mean learning rates were well below the normal rate of 1 year of development per year of age (see Table 4). As might be expected, delays were most prominent in receptive and expressive language skills, with mean standard scores in all three groups close to 50, and mean learning rates of about .5 age equivalents per year (i.e., half the normal learning rate).

The mean scores of all three groups of children on all measures were similar at intake. The only difference that reached statistical significance was in the non-verbal skills domain, where the GP group had a significantly higher mean age equivalent score than the AP group.

3.2. Follow-up

At follow-up, there were no statistically significant differences between the mean scores of children in the AP and GP groups (see Table 5). In contrast, the IBT group had higher mean scores in all domains than the other two groups combined. Those differences were statistically significant. The only exception to this general finding was in the motor skills domain, which yielded no statistically significant group differences when results were expressed as learning rates. The IBT group had mean standard scores in the normal range on cognitive, non-verbal, communication, and motor skills, whereas the only mean score in the normal range for the AP and GP groups was in motor skills (which were not substantially delayed at intake). Differential treatment effects were also reflected in changes exhibited by individual children within the three groups. For example, the cognitive (IQ) scores of 13 children in the IBT group increased from one standard deviation or more below average (i.e., IQ of 85 or lower) at intake to within one standard deviation of average or above (i.e., IQ of 86 or higher) at follow-up. Three children in that group had IQ

Table 4
Test scores and learning rates at intake

Measure	IBT		AP		GP		IBT mean minus AP/GP mean	AP mean minus GP mean
	M	S.D.	*M*	S.D.	*M*	S.D.		
Standard scores								
Cognitive	58.54	18.15	53.69	13.50	59.88	14.85	1.76	−6.19
Non-verbal	80.14	11.86	67.44	16.69	77.69	12.33	8.11	−10.25
Receptive	52.16	18.44	45.38	14.97	49.00	13.61	5.16	−3.62
Expressive	51.88	12.91	43.88	6.69	48.77	11.61	5.81	−4.89
Communication	66.18	10.02	63.69	9.68	66.20	8.70	1.28	−2.51
Self-help	70.71	10.14	68.06	11.61	73.43	10.39	.14	−5.37
Social	72.79	11.26	75.50	14.25	75.07	12.09	−2.51	.43
Motor	95.11	11.70	93.19	10.10	92.08	13.84	2.42	1.11
Composite[a]	70.46	11.85	69.81	10.48	71.62	10.47	−.16	−1.81
Age equivalents (months)								
Cognitive[a]	17.04	6.07	17.27	4.71	17.10	3.93	−.15	.17
Non-verbal[a]	24.43	4.37	24.75	6.01	26.83	6.95	−1.21	−2.08*
Receptive	14.57	5.82	16.81	5.36	16.60	5.34	−2.14	.21
Expressive[a]	14.76	4.72	16.38	2.99	17.87	5.45	−2.34	−1.49
Communication[a]	14.90	4.32	16.19	6.44	16.53	5.25	−1.45	−.34
Self-help[a]	18.24	3.83	21.44	7.78	21.20	6.67	−3.08	.24
Social[a]	16.39	4.89	22.06	10.62	19.60	5.68	−4.48	2.46
Motor[a]	28.86	5.86	33.56	7.20	32.00	6.25	−3.97	1.56
Learning rates prior to intake (age equivalents per year)								
Non-verbal	.79	.14	.67	.17	.78	.12	.08	−.11
Receptive	.48	.21	.45	.15	.48	.12	.02	−.03
Expressive	.49	.16	.44	.06	.53	.17	.01	−.09
Communication	.49	.15	.43	.15	.49	.15	.04	−.06
Self-help	.61	.17	.57	.16	.62	.18	.01	−.06
Social	.54	.18	.58	.23	.58	.19	−.04	.00
Motor	.95	.18	.90	.13	.93	.18	.03	−.04

[a] Age at diagnosis is a significant covariate ($p < .05$).
* Difference is statistically significant, after controlling for age at diagnosis and parents' level of education ($p < .05$).

scores in or near the normal range at intake (84, 89, and 97); at follow-up their IQ scores had increased to 122, 114, and 102, respectively. In the AP group, no children had IQ scores in the normal range at intake; at follow-up, the IQ scores of two children had moved into the normal range. Three children in the GP group had IQ scores that moved from one or more standard deviations below average at intake to within the normal range at follow-up; however, the two children in that group whose IQ scores were in the normal range at intake actually had lower IQ scores at follow-up (from 91 to 77 and 89 to 85).

Table 5 also shows that IBT produced normal or above-normal mean learning rates in all skill domains, although the learning rate for motor skills was near normal for this group as well as the other two groups of children before intervention. In contrast, only non-verbal skills were acquired at close to normal rates by children in the other two treatment groups during the intervention period (means = .87 and .90, respectively). Differential treatment effects were most evident when rates of acquisition of language skills were compared.

Table 5
Test scores and learning rates at follow-up

Measure	IBT		AP		GP		IBT mean minus AP/GP mean	AP mean minus GP mean
	M	S.D.	*M*	S.D.	*M*	S.D.		
Standard scores								
Cognitive	89.88	20.87	62.13	19.63	68.81	15.32	24.42**	−6.68
Non-verbal[a]	101.67	19.14	73.56	24.94	82.53	16.76	23.77**	−8.97
Receptive	71.31	22.72	49.93	19.62	49.21	16.08	21.73*	.72
Expressive[a]	70.46	22.88	47.67	23.39	46.79	12.81	23.21*	.88
Communication	85.44	14.73	64.13	14.18	68.69	14.18	19.03**	−4.56
Self-help	76.56	11.59	70.00	11.92	65.19	8.84	8.97**	4.81
Social	82.08	11.73	75.00	18.01	70.56	11.77	9.30**	4.44
Motor	98.16	12.01	88.06	13.43	89.50	10.06	9.38*	−1.44
Composite	81.32	11.14	69.25	12.91	68.25	9.86	12.57**	1.00
Age equivalents (months)								
Non-verbal[b]	44.54	8.76	37.38	13.14	40.80	9.97	5.51*	−3.42
Receptive	32.23	10.04	26.27	11.56	25.38	10.00	6.37*	.89
Expressive	31.96	12.00	24.00	12.02	23.31	7.36	8.28*	.69
Communication	36.60	12.23	23.88	11.82	26.13	8.74	11.60**	−2.25
Self-help[b]	31.88	8.74	31.75	9.75	27.81	5.75	2.10*	3.94
Social	32.04	10.23	30.06	16.10	24.81	7.23	4.61*	5.25
Motor[b]	44.16	8.22	43.00	7.28	42.25	6.58	1.54*	.75
Learning rates between intake and follow-up (age equivalents per year)								
Non-verbal	1.44	.52	.87	.74	.90	.39	.56**	−.03
Receptive	1.23	.56	.65	.47	.48	.43	.66**	.16
Expressive	1.22	.73	.49	.78	.33	.45	.80**	.16
Communication	1.43	.72	.56	.76	.69	.70	.81**	−.13
Self-help	.91	.58	.74	.80	.48	.49	.30*	.26
Social	1.04	.74	.60	.94	.40	.67	.54*	.20
Motor	.99	.45	.69	.49	.83	.59	.24	−.14

[a] Parents' level of education is a significant covariate ($p < .05$).
[b] Age at diagnosis is a significant covariate ($p < .05$).
* Difference is statistically significant, after controlling for age at diagnosis and parents' level of education ($p < .05$).
** Difference is statistically significant, after controlling for age at diagnosis and parents' level of education ($p < .01$).

Inspection of Figs. 1 and 2 reveals that those differences were not restricted to just a few children. Prior to intake, children in all three groups exhibited similar, below-normal rates of learning receptive language skills, although two children in the IBT group were acquiring receptive language skills at a normal rate prior to intervention (Fig. 1). At follow-up, all but eight children in the IBT group were acquiring receptive language skills at a normal rate, with several achieving at above-normal rates and two others at near-normal rates. In contrast, learning rates at follow-up remained below normal for the large majority of children in the AP and GP groups. A small number of children in all three groups, however, appeared to have lower learning rates in this domain at follow-up than at intake.

Fig. 2 shows similar patterns for expressive language skills. At intake, all children in the IBT group had expressive language learning rates that were below normal; at follow-up, all

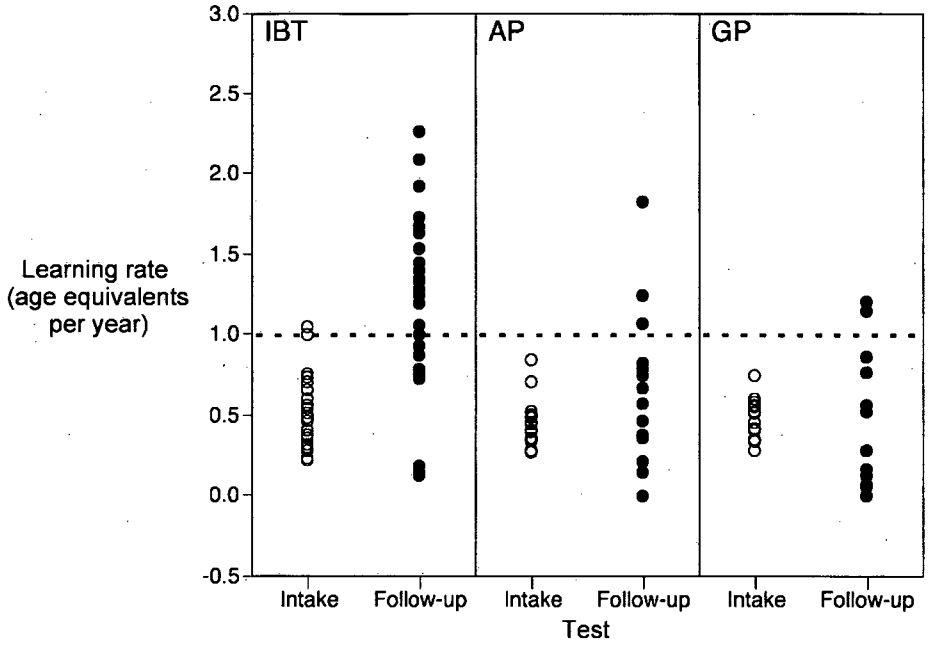

Fig. 1. Receptive language learning rates prior to intake (unfilled circles) and at follow-up, after about 14 months of intervention (filled circles). The dashed line indicates the normal learning rate (1 year of development for each year of age).

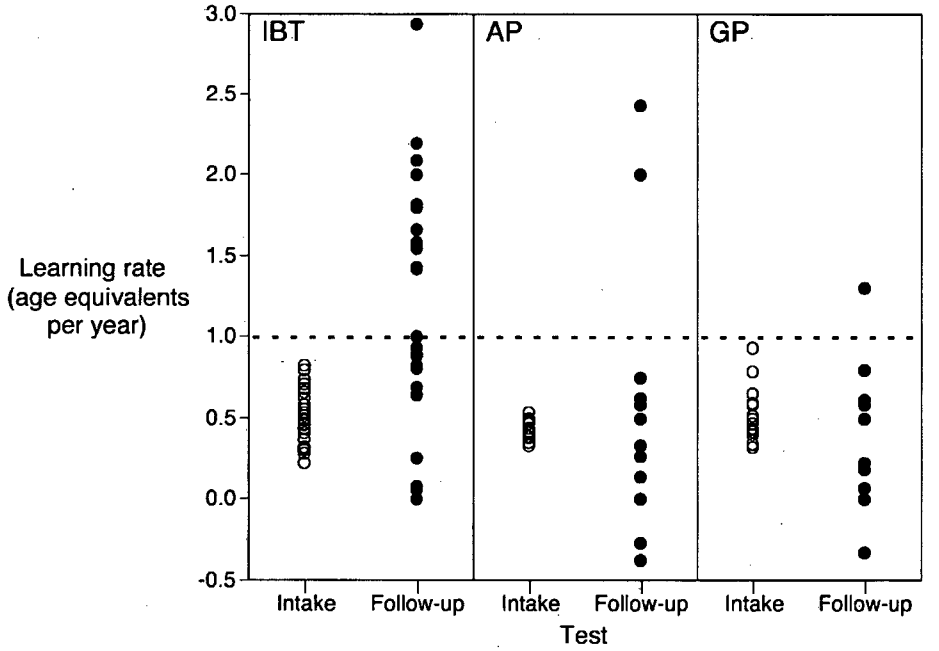

Fig. 2. Expressive language learning rates prior to intake (unfilled circles) and at follow-up, after about 14 months of intervention (filled circles). The dashed line indicates the normal learning rate (1 year of development for each year of age).

Table 6
Changes in test scores and learning rates

Measure	IBT		AP		GP		IBT mean minus AP/GP mean	AP mean minus GP mean
	M	S.D.	*M*	S.D.	*M*	S.D.		
Standard scores at follow-up minus standard scores at intake								
Cognitive	29.72	16.29	8.44	15.04	8.94	17.95	21.03**	−.50
Non-verbal[a]	20.57	16.20	6.13	18.70	2.31	11.61	16.16**	3.82
Receptive	20.17	19.46	3.87	12.09	−4.82	14.81	19.97**	8.68
Expressive[a]	20.08	22.42	3.80	20.66	−4.45	17.25	19.78*	8.25
Communication	17.17	13.94	.44	12.47	2.20	14.08	15.88**	−1.76
Self-help	5.92	13.60	1.94	15.29	−7.43	11.03	8.35*	9.37
Social	8.00	13.54	−.50	14.41	−4.64	15.16	10.43*	4.14
Motor	1.38	13.90	−5.13	14.47	−1.23	19.13	4.75	−3.89
Composite	10.52	14.73	−.56	12.04	−2.77	14.01	12.07**	2.21
Age equivalents at follow-up minus age equivalents at intake (months)								
Non-verbal	20.81	7.20	12.63	11.20	13.17	5.54	7.95**	−.54
Receptive	17.15	7.88	9.13	8.16	6.83	5.92	9.04**	2.30
Expressive	16.85	10.30	7.53	11.90	4.50	6.05	10.66**	3.03
Communication	21.00	10.88	7.69	9.73	9.53	8.87	12.42**	−1.85
Self-help	13.44	8.13	10.31	9.90	6.93	6.84	4.76*	3.38
Social	15.46	9.89	8.00	11.99	5.27	9.11	8.78**	2.73
Motor	14.33	6.20	9.44	6.83	11.43	7.85	3.97	−1.99
Learning rates between intake and follow-up minus learning rates prior to intake (age equivalents per year)								
Non-verbal	.65	.53	.20	.73	.12	.38	.49*	.08
Receptive	.73	.61	.19	.42	−.02	.41	.64**	.21
Expressive	.72	.76	.05	.77	−.23	.54	.79**	.27
Communication	.92	.75	.13	.78	.21	.75	.76**	−.08
Self-help	.30	.68	.18	.90	−.14	.64	.28*	.32
Social	.48	.83	.02	.97	−.18	.78	.56*	.20
Motor	.01	.53	−.21	.55	−.11	.75	.17	−.10

[a] Parents' level of education is a significant covariate ($p < .05$).

* Difference is statistically significant, after controlling for age at diagnosis and parents' level of education ($p < .05$).

** Difference is statistically significant, after controlling for age at diagnosis and parents' level of education ($p < .01$).

but nine of those children were acquiring those skills at normal rates, with rates accelerated to substantially above normal for several children. Two additional children in this group had near-normal learning rates at follow-up. All children in the AP and GP groups also had below-normal rates of acquisition of expressive language skills at intake. At follow-up, although 1–2 children in each group exhibited normal or above-normal learning rates, the rate of acquisition of expressive language skills actually *declined* over the course of intervention for several children in both groups. Some of the factors that contributed to these between-group and individual differences will be explored in a subsequent paper.

Since the mean scores for all three groups of children on all dependent measures were similar at intake, the analysis of change scores yielded results that were similar to those that emerged from analyzing the follow-up scores (see Table 6). Some interesting additional

information was revealed by this analysis. Children in the IBT group exhibited statistically significantly larger mean treatment gains in all domains than children in the AP and GP groups combined, with the possible exception of the motor skills domain (which was significant only when standard scores were used). Indeed, the IBT group had mean gains in standard scores in all skill domains, ranging from 1.38 points in motor skills (which were already near-normal at intake) to 29.72 points in cognitive skills. The AP group's change scores ranged from −5.13 points in the motor skills domain to 8.44 points in cognitive skills. Mean change scores for this group actually revealed *losses* in social and motor skills as well as the VABS composite score, and negligible-to-small gains in the other domains. For the GP group, mean change scores ranged from −7.43 in daily living skills to 8.94 in cognitive skills, with losses in receptive language, expressive language, daily living, social, and motor skills as well as the VABS composite score. Similar patterns emerged when age equivalents were used in change score analyses: the IBT group made gains in all domains (range = 13.44–20.81 months), gaining more than 14 months developmentally, on average, in non-verbal, receptive language, expressive language, overall communication, social, and motor skills over the 14-month intake-to-follow-up period. Mean age equivalent gains for the AP and GP groups were much smaller and were less than 14 months in all domains (ranges = 7.53–12.63 months and 4.5–13.17 months, respectively).

4. Discussion

Young children with autism or PDD-NOS who received intensive behavior analytic treatment (IBT) for about 14 months outperformed comparable children who received "eclectic" intervention services for the same period of time on virtually every follow-up measure. In most cases the differences in mean scores were substantial and statistically significant. Our analyses corrected for the parents' level of education and for the children's ages at diagnosis. No direct correction was made for the age at testing, but children in the IBT group had the highest mean age equivalents at follow-up (see Table 5), despite being younger than the children in the other groups. Thus, our findings cannot be attributed to differences in age at testing; if anything, they underestimate the effect of IBT on age equivalents. These results are consistent with those reported by other investigators who found that providing at least 30 h of competently delivered, intensive behavior analytic intervention to preschool-age children with autism produced large improvements in intellectual functioning, communication skills, and adaptive behavior. We reported gains measured just 14 months into treatment, so it was not surprising that they were generally smaller than gains that have been documented after 2–3 years of IBT (e.g., Green et al., 2002; Lovaas, 1987; Perry et al., 1995; Weiss, 1999). The gains we observed, however, were generally larger than gains reported by Anderson et al. (1987) for preschool children with autism who received only 15–25 h of behavior analytic treatment for 1 year.

Analyses of learning rates (Table 5, Figs. 1 and 2) provided further evidence of the efficacy of IBT for accelerating rates of skill acquisition. During 14 months of treatment, children in the IBT group acquired skills in most domains at a rate that matched or exceeded the normal rate of 1 year of development per year of age. That was not the case for the children in the AP and GP groups; with very few exceptions, their learning rates

remained well below normal. If children with autism are to have any chance to close the gap between their skills and those of their typically developing peers, their developmental trajectories must be increased sharply while they are young, before the gap widens even further. That is, their learning rates need to *exceed* the normal rate for an extended period of time. Of the early intervention approaches investigated in this study, only IBT had that effect, producing above-normal mean learning rates in the non-verbal, receptive language, expressive language, overall communication, and social skill domains. It is important to note, however, that 14 months of accelerated development was not enough for the children in the IBT group to make up all of the differences between their skills and those of typically developing preschoolers. Previous research suggests that at least 1–2 additional years of IBT will be required before some of those children will have the repertoires required to learn effectively in typical classrooms without ongoing specialized intervention; some will require more than that, and some will likely not reach that point even with additional IBT (see Green, 1996; Smith, 1999). Projections based on the developmental trajectories produced by IBT in our study suggest that most children will continue to make progress toward catching up with their typically developing peers if they continue receiving competently delivered IBT.

Our findings also shed some empirical light on the relation between the type and intensity of early intervention and benefits for children with autism. "Eclectic" treatment (a combination of TEACCH, sensory integration therapy, and some applied behavior analysis methods) did not prove very effective for our AP comparison group, even though it was provided intensively (i.e., for 30 h per week with adult:child ratios of 1:1 or 1:2) in classrooms specifically designed for children with autism by staff with considerable training and experience with the population. Mean change scores in all skill domains were substantially lower for the AP group than for their counterparts who received IBT, in fact reflecting losses rather than gains in some areas over 14 months of treatment (Table 6). These findings are consistent with those reported by Eikeseth et al. (2002) for a group of children with autism aged 4–7 years who received similarly intensive "eclectic" treatment in special education classrooms for 1 year. Thus, the popular notion that virtually *any* intervention can produce meaningful benefits for children with autism if it is provided intensively has not been confirmed by two controlled studies that addressed that hypothesis. Instead, IBT produced substantially larger improvements than intensive "eclectic" treatment in both studies. The non-intensive "eclectic" treatment experienced by our GP group (15 h per week of "developmentally appropriate" activities and sensory experiences provided in a 1:6 adult:child ratio) was not just ineffective; it produced *negative* mean change scores in multiple skill domains. In short, the effect of "eclectic" treatment on both the AP and GP groups was to flatten or decrease rather than increase the slopes of the developmental trajectories of most children. Based on these findings, we would project that those children will lose more ground to their typically developing peers the longer they remain in such intervention programs.

The ineffectiveness of the "eclectic" early intervention provided to children in the AP and GP groups in this study should not be surprising. "Eclectic" intervention necessarily involves multiple transitions per day from one activity or "therapy" to another, and a good deal of variability in the way intervention is provided by the various adults involved. Children with autism often do not respond well to changes in routines, have substantial

attentional difficulties, and learn best when instruction is consistent. It does not stand to reason that typical "eclectic" programming provided in a group format is likely to produce meaningful benefits for children with those characteristics. Nor does it follow logically that combining several "therapies" or methods for which there is limited scientific evidence of effectiveness (such as TEACCH, developmental models, and sensory integration therapy; see Arendt, MacLean, & Baumeister, 1988; Dawson & Watling, 2000; Smith, 1999) is likely to be beneficial for young children with autism. What is surprising is how few scientific studies heretofore have evaluated the "eclectic" approach, and how many prominent individuals and organizations in the autism community and the education establishment endorse and promote it.

One interesting observation that was common to all three treatment groups in this study was a change in the distributions of language learning rates from pre-treatment to follow-up (see Figs. 1 and 2). For all three groups, the spreads of the distributions were considerably greater at follow-up than before treatment, and some modes shifted as well. Those changes may have been due in part to sampling errors, which could have been magnified in the follow-up data because the follow-up learning rates were based on a shorter time period than were the pre-treatment learning rates (14 months versus 34 months, on average). It is likely that sampling errors affected all datasets equally, however, so the relative between-group differences in learning rate distributions likely reflect differential treatment effectiveness. Here again, the effects of IBT appeared to differ substantially from the effects of the other two interventions. Fig. 1 shows that for the IBT group, the mode of the distribution of learning rates for receptive language skills moved from well below normal before treatment to above normal after 14 months of treatment, with many more children achieving normal rates at follow-up than prior to intervention. The mode of the distribution of receptive language learning rates for the intensive "eclectic" intervention (AP) group was slightly higher but still well below normal at follow-up, with three children acquiring receptive language skills at normal rates after 14 months. For the GP group, the mode of the distribution of receptive language learning rates was lower at follow-up than pre-treatment, although two children in that group were acquiring receptive language skills at normal rates at follow-up. With regard to rates of acquiring expressive language skills (Fig. 2), the distribution spread markedly with IBT, with a number of children in that group exhibiting learning rates that were well above normal at follow-up. Prior to intervention, the modal learning rate for the IBT group was well below normal; at follow-up a bimodal distribution was observed, with one mode substantially above normal and the other just below normal. Intensive "eclectic" treatment also appeared to produce greater spread in the distribution of expressive language learning rates for the AP group, but only a slight upward shift in the mode. The non-intensive "eclectic" intervention (GP) group showed a slightly increased spread in the distribution of learning rates for expressive communication skills at follow-up, but the mode shifted down rather than up.

Several limitations to this study constrain the interpretation of our results. First, assignment to treatment groups was parent-determined rather than random; however, the three groups were very similar on key dependent measures before treatment began, which is the main purpose of random assignment (cf. Baer, 1993; Kasari, 2002). Thus, differences in outcomes across the three groups were likely due to the treatments rather than to any

selection bias or pre-treatment differences among the groups. Second, the examiners who conducted the assessments were not blind as to the children's group assignments at follow-up testing. They were, however, independent of the investigators as well as all three intervention programs. It could be argued that some of the examiners were biased toward IBT, which led them to overestimate the follow-up status of children in that group. Since there were a large number of examiners, however, it is just as likely that some of them were biased *against* IBT and *toward* the other interventions. Third, results were analyzed only in terms of performances on standardized, norm-referenced assessments conducted in formal testing situations, rather than the repeated direct observational measurement of behavior in situ that characterizes applied behavior analysis. Additionally, the analyses compared group mean scores statistically. Group mean scores may not accurately represent the actual performance of any individual in the group, and between-groups statistical comparisons of mean scores cannot reveal clinically significant changes in individual behavior over time (Johnston & Pennypacker, 1993). Nonetheless, standardized instruments like IQ tests and adaptive behavior scales are widely used in autism research, and scores on such tests have been shown to correlate reasonably well with overall adjustment for individuals with autism (e.g., Klin et al., 1997). Further, between-groups comparisons are helpful for answering actuarial questions, such as the relative efficacy of interventions for groups of children with autism. Finally, treatment integrity was not measured in this study. The behavior analytic treatment was directed by individuals with documented training and credentials in applied behavior analysis, and incorporated techniques that have been operationally defined and tested in many previous studies (see Green, 1996, 2001; Matson et al., 1996). Staff in that program were trained and supervised closely, but it cannot be assumed that they implemented treatment procedures with fidelity and consistency throughout the study. Even fewer assumptions can be made about the other interventions. Indeed, measuring the integrity of those interventions would likely prove challenging, because many of the techniques employed have not been operationally defined or evaluated, and the skills required to implement them have not been well-specified.

As noted previously, we plan to conduct further analyses of child, family, and treatment variables that were correlated with the differential outcomes reported here. Additional research on the importance of such variables is needed to inform decision-making by families and policymakers, and to aid in the development of new or modified interventions for children with autism spectrum disorders who do not respond to IBT. Studies that further investigate the short- and long-term effects of "eclectic" intervention are also needed, given the widespread popularity and availability of that approach for children with autism spectrum disorders. The same can be said of early intervention that is based primarily or exclusively on models that have not yet been subjected to thorough scientific evaluations, such as TEACCH, "developmentally appropriate" programming, "floor time," Relationship Development Intervention, and sensorimotor techniques.

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TASH

The Effectiveness of Contextually Supported Play Date Interactions Between Children With Autism and Typically Developing Peers

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Difficulties with social interaction are characteristic of autism. This study presents data illustrating the use of motivational strategies in play dates to improve the quality of social interactions between children with autism and their typically developing peers. Specifically, a multiple baseline design across participants shows how a contextual support package implemented during play dates can promote reciprocal interactions and improve affect. These results support the use of intervention strategies that target the pivotal area of motivation and provide evidence for using play dates as a context for intervention. The findings are discussed in terms of promoting quality interactions and encouraging friendship development.

DESCRIPTORS: autism, social development, play, inclusion

An extensive body of literature documents the significant role of peer relationships in the social development of typical children (Hartup, 1996; Newcomb, Bukowski, & Bagwell, 1999; Rose & Asher, 2000). Prior studies have shown the association between having high-quality peer relationships and a variety of developmental outcomes for these children (Hymel, Vaillancourt, McDougall, & Renshaw, 2002; Parker & Asher, 1993). For example, researchers have suggested that peer-related school adjustment in middle-school boys may be associated with lower rates of later arrest (Walker, Stieber, Ramsey, & O'Neill, 1993) and that peer acceptance and friendship may also protect against loneliness and peer victimization for children at risk for poor outcomes (Asher & Paquette, 2003; Criss, Pettit, Bates, Dodge, & Lapp, 2002; Ladd, Kochenderfer, & Coleman, 1997; Parker & Asher, 1993; Parker & Seal, 1996; Schwartz, Dodge, Pettit, & Bates, 2000). In addition, typically developing children who experience higher levels of peer rejection may be at risk for lower levels of adjustment and increased externalizing behavior (Dodge et al., 2003; Laird, Jordan, Dodge, Pettit, & Bates, 2001). The characteristic social deficits found in children with autism may place them at even higher risk for loneliness, poor-quality friendships, and social isolation (Bauminger & Kasari, 2000; Falvey & Rosenberg, 1995; Frea, 1995; Howlin & Rutter, 1987; Mesibov, Shea, & Adams, 2001). Therefore, interventions that increase opportunities for positive peer interactions may be critical to improve these children's social outcomes.

Researchers have used a variety of strategies for increasing opportunities for peer interaction, including the use of peer modeling and tutoring (Kamps et al., 1992), peer buddies (Laushey & Heflin, 2000), play groups (Wolfberg & Schuler, 1993), priming (Zanolli, Daggett, & Adams, 1996), and peer networks (Kamps, Potucek, Lopez, Kravits, & Kemmerer, 1997). These social interventions have traditionally been implemented for children with autism in school settings, but recent research has suggested arranging these social opportunities in other natural settings (Strain, Kohler, Storey, & Danko, 1994; Wolfberg & Schuler, 1999; Yang, Wolfberg, Wu, & Hwu, 2003) such as homes, after-school programs, and parks. Indeed, the literature reports that typically developing children regularly invite friends to play at their homes and that these social opportunities help children practice appropriate social skills and foster close friendships (Frankel & Myatt, 2003). Because of their role in promoting friendship development, social interventions conducted during play dates may benefit children who have difficulty with peer social interactions.

In implementing social interventions during play dates, several variables have been identified in the literature that may help promote successful play dates.

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Global summaries of portions of the data from this study are also discussed in Werner, Vismara, Koegel, & Koegel (in press).

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Several researchers have noted that environmental antecedents and contextual variables played a critical role in controlling social behavior with peers (Sasso, Mundschenk, Melloy, & Casey, 1998; Zanolli, 1997). Additional research has suggested the importance of incorporating motivational variables in intervention for children with autism (Koegel, Dyer, & Bell, 1987; Koegel, O'Dell, & Koegel, 1987). Similarly, researchers have also emphasized the importance of participation in meaningful choice-making (Brown, Belz, Corsi, & Wenig, 1993). This body of research suggests that incorporating mutually reinforcing activities during play dates may promote reciprocal interactions by motivating both children to participate. Natural contingencies and shared control of reinforcers can also ensure that both children with disabilities and their typical peers receive reinforcement from the activity (Kennedy & Itkonen, 1996). When these cooperative arrangements are used during play dates, the reinforcers become contingent on the children's interactions and thus may promote increased levels of interaction. In addition, support from a facilitator during these play activities may help promote successful interactions (Wolfberg & Schuler, 1993), and this support can be faded systematically as the children demonstrate improvements in reciprocal social behaviors (Odom & Watts, 1991).

These strategies by themselves seem to have a positive impact on certain components of social interaction. However, little information is available with respect to the broader influence of these strategies on meaningful peer relationships. Combining these individually successful strategies into an intervention package may provide even more promising outcomes in terms of high-quality interaction and friendship development. In particular, the use of mutually reinforcing activities and adult facilitation of cooperative arrangements may provide an effective play date intervention context and promote clinically significant outcomes. The purpose of this study was to evaluate the effects of this contextual support package during play dates on socially valid aspects of peer interaction, including reciprocal interactions, displays of positive affect, and peer acceptance and friendship in the form of spontaneous invitations for play dates from peers.

Method

Participants

Two children with autism participated in this study. Both children were diagnosed according to the criteria outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; American Psychiatric Association, 1994) by two independent agencies. The participants, Megan and Kyle, were 8 and 9 years of age respectively. Megan was of European American descent and from an upper-middle-class family. Kyle was of European American and Persian descent and from a middle-class family. Megan and Kyle were both fully included in typical classrooms with full-time aides. The Vineland Adaptive Behavior Scales (VABS) (Sparrow, Balla, & Cicchetti, 1984) and behavioral observations suggested that Megan was approximately 4 years below age level in socialization. Similarly, behavioral observations suggested that Kyle was also functioning approximately 4 years below age level in socialization.

Prior to the start of intervention, both Megan and Kyle had some use of communicative speech, but both children had severe difficulties with the pragmatic aspects of language. Specifically, both children rarely responded to their peers' questions and comments and showed difficulty engaging in reciprocal conversations. Megan and Kyle were specifically selected for participation in this study because they rarely engaged in social interaction with peers and had no consistent friends. Without adult facilitation, both Megan and Kyle were alone on the playground during their free time and had infrequent peer interaction outside the school setting; that is, these children were not involved in any extracurricular or recreational activities (e.g., camps, sport activities, after-school clubs) and were not invited by peers to participate in typical social activities, such as play dates, birthday parties, and sleep-overs.

Design

A multiple baseline design across participants was used to assess whether contextually supported play date activities would result in increased levels of reciprocal social interaction and higher affect between the participants and their peers relative to play dates without contextual support. Baseline data were collected over the course of approximately 3 months before the start of intervention for Megan and for approximately 8 months for Kyle. In addition, for Megan, a reversal to play dates without contextual support was conducted after the first two intervention probes and then the contextually supported intervention was reinstated and continued over the following months (Fig. 1).

General Procedure

For both Megan and Kyle, play dates occurred in natural settings (e.g., home, park, beach, zoo, bowling alley), and probes were taken during play dates with and without contextual support. In both conditions, social activities were arranged for the children with autism in which they were in proximity to typically developing peers. Therefore, both conditions presented opportunities for social interaction. Parents of the children with autism consulted with teachers and classroom aides to select responsible peers with similar interests and positive social behaviors. Informal child observations were also conducted in natural settings (e.g., school parks, home) to provide additional information about possible playmates. During both conditions, parents of the children with autism contacted the parents of same-age peers from their child's classroom or neighborhood and invited the peers to participate in a play

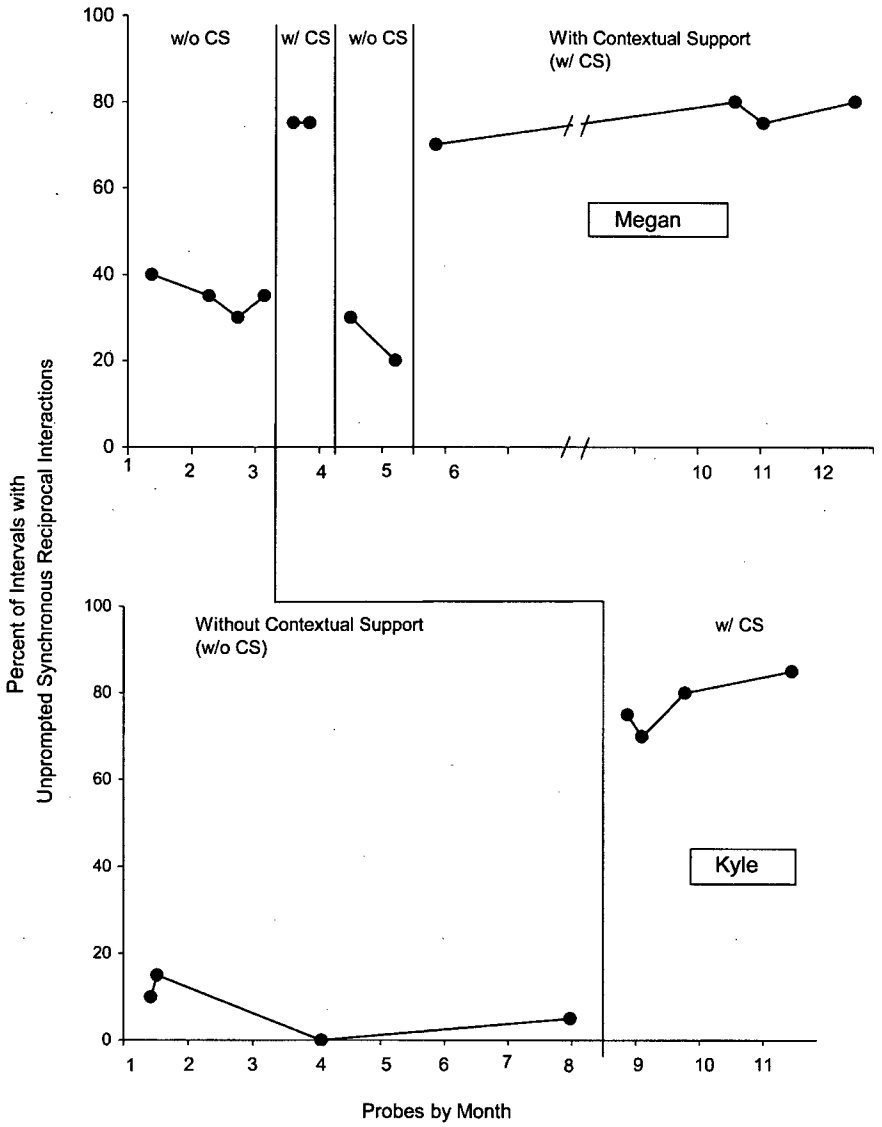

Figure 1. Percentage of intervals with unprompted synchronous reciprocal interaction during play dates with and without contextual support.

date. Parents were asked to try to arrange play dates approximately once per week. Over the course of play dates both with and without support, there were between nine and five different peers (Table 1) invited to participate in play dates for Megan and Kyle, respectively.

A graduate student who was unaware of the experimental hypothesis and had at least 3 years of experience working with children with autism served as a facilitator to promote successful social interactions. These graduate students, in collaboration with the parents, arranged play date activities and facilitated social interaction using the play date intervention strategies described below (i.e., mutually reinforcing activities and adult facilitation of cooperative arrangements). Play dates were videotaped to assess the level of appropriate social interaction among the children, and representative probes were randomly selected from video tapes of the entire play date and scored by two independent observers.

Play Dates Without Contextual Support

This condition consisted of play dates as described above with no specific instructions provided, other than for the children to play together on activities in which they typically would engage. During these play dates, the children were responsible for selecting play activities. Both indoor and outdoor activities were available

Table 1
Activities During Play Dates With and Without Contextural Support for Megan and Kyle

Child	Probe	Peer	Setting	Activity
Megan	1 w/o CS	Peer 1	Megan's kitchen table	Coloring
	2 w/o CS	Peer 2	Megan's backyard	Chase w/silly string
	3 w/o CS	Peer 3	Neighborhood parking lot	Bicycle riding
	4 w/o CS	Peer 4	Megan's bedroom	Dolls
	5 w/CS	Peer 1	Megan's living room	Game ("Candyland")
	6 w/CS	Peer 1	Megan's kitchen table	Craft (tissue flowers)
	7 w/o CS	Peer 1	Megan's patio	Dress up
	8 w/o CS	Peer 5	Neighborhood pool	Swimming
	9 w/CS	Peer 6	Megan's kitchen	Baking cupcakes
	10 w/CS	Peer 7	Megan's dining room	Making necklaces
	11 w/CS	Peer 8	Megan's kitchen	Cookie decorating
	12 w/CS	Peer 9	Local bowling alley	Bowling
Kyle	1 w/o CS	Peer 1	Local park	Play with squirt guns
	2 w/o CS	Peer 2	Local park	Collecting bugs
	3 w/o CS	Peer 3	Beach	Surfing/swimming
	4 w/o CS	Peer 4	Kyle's living room	Board game ("Sorry")
	5 w/CS	Peer 4	Kyle's living room	Pictionary
	6 w/CS	Peer 4	Kyle's backyard	Painting
	7 w/CS	Peer 5	Kyle's living room	Board game ("Sorry")
	8 w/CS	Peer 3	Kyle's driveway	Basketball

to the children. Examples of activities included board games, dolls, painting, basketball, and riding bicycles. An adult was present to ensure child safety at all times.

Play Dates With Contextual Support

The contextually supported intervention condition was the same as the play dates without contextual support except that within the children's activities, the adults ensured that two components were present: the activities were selected so that they contained mutually reinforcing properties for both the child with autism and the typically developing peer, and the adult facilitator set up cooperative arrangements between the children within each activity. These components are described in detail below.

First, the activities were selected to be mutually reinforcing for both children. In particular, both children's interests were considered in selecting play date activities. This was done by consulting with parents and teachers to determine common interests between the two children for use during play dates. As an example, Table 1 provides examples of the mutually reinforcing activities used during contextually supported play dates for each of the two children in this study. These were activities preferred by both the child with autism and the individual peer invited to play during that play date.

Second, the adult facilitator (graduate student and/or parent) set up cooperative arrangements within the context of the play date activity. Cooperative arrangements consisted of structuring the play date activities in such a way that the participation of each individual was critical to the activity. For instance, when baking cookies, the adult facilitator might set up a cooperative arrangement by having one child hold the measuring cup while the other child poured the ingredients. Another example is when making a collage together, the adult facilitator might have one child cut out the pictures while the other child glued them on the background. In this way, the facilitator ensured that access to the necessary materials for the activity was contingent upon peer interaction, making the children's collaborative participation required for a successful outcome.

Dependent Variables

The effectiveness of this intervention package was analyzed by comparing the play dates with and without contextual support on the basis of two dependent variables, synchronous reciprocal interaction and child affect. In addition, a supplemental measure of social validity was scored throughout all conditions.

Synchronous Reciprocal Interaction

Adapted from Siller and Sigman's (2002) definition of caregiver synchronization, synchronous reciprocal interaction was defined as both children engaging in social communicative behaviors related to the other child's current interest. These social communicative behaviors consisted of the children showing verbal initiations, verbal responses, nonverbal eye contact, facial expressions, and/or gestures in relation to their engagement in a joint activity. Synchronous reciprocal interaction was scored in 30-second intervals for both the target child and peer. Only intervals in which both children were engaging in unprompted synchronous interaction throughout the majority of the 30-second interval were scored as synchronous (typically, when the children engaged in social interaction they did so throughout the interval). For example, if one child was drawing a picture, the other child might initiate by asking a question (e.g., "What are you drawing?"), making a comment (e.g., "I like your picture"), handing a marker to the child, or assisting the child in drawing the

object, and then have these efforts be reciprocated by the peer (e.g., peer responds to question, makes eye contact, smiles, uses marker from peer). This would be scored as synchronous reciprocal interaction because both children's verbal and/or nonverbal behaviors were directed toward one another within the social activity. In contrast, while drawing, if one child made a verbal initiation (e.g., "What are you drawing?") but the other child did not reciprocate (e.g., child did not respond or left activity) or was prompted by the adult to reciprocate, this would not be scored as a synchronous reciprocal interaction because only one child's behavior was spontaneously directed toward the other child during the activity. Also, intervals with no verbal or nonverbal interaction between the children were scored as having no synchronous reciprocal interaction.

Affect

To assess the quality of play interactions between the target child and peer, play date probes were also scored for child affect. Specifically, affect ratings were generated for the target child and peer during each play date based on their overall affect during the probe. Adapted from existing affect scales in the literature (Koegel, Bimbela, & Schreibman, 1996; Koegel & Egel, 1979; Schreibman, Kaneko, & Koegel, 1991), the study used a 6-point Likert scale to assess overall affect based upon dimensions of enjoyment, interest, and comfort during the play date interactions. This scale was divided into three categories with negative affect assigned scores ranging from 0 to 1, neutral affect given scores of 2 to 3, and positive affect scores ranging from 4 to 5 (Table 2).

Supplemental Measure of Social Validation

In addition to measures of synchronous reciprocal interaction and affect during play dates, data were collected throughout the study on the frequency of peer invitations. These data were based on parent report of the number of times each month that Megan and Kyle were invited over to play by another peer. Both participants' mothers were asked to keep track of the number of invitations their children received. The graduate student clinicians also communicated regularly with the parents to validate the frequency of these invitations.

Reliability

Interrater reliability was computed for 80% of sessions for both synchronous reciprocal interactions and for affect. Two observers, one of whom was unaware of the experimental hypothesis and conditions, independently scored these sessions, and their results were compared with determine reliability. Reliability was calculated as the number of agreements divided by the number of agreements plus disagreements, times 100. In scoring synchronous reciprocal interaction, the 30-second intervals were coded as reciprocal, prompted reciprocal, or not reciprocal. For the purpose of reliability calculations, an agreement consisted of both observers giving the same rating for the same 30-second interval. For synchronous reciprocal interaction, the average percentage agreement was 87% (range 75%–100%). For affect ratings, category agreement was defined as both observers rating the affect in the same category (positive, neutral, or negative). For example, if one rater gave the session a rating of 3 and the other gave it a score of 2, this was considered to be category agreement because both observers ranked affect in the neutral range. Category agreement was 94%.

Results

Results for synchronous reciprocal interaction during play dates with and without contextually supported activities are presented in Figure 1. The multiple baseline design across participants showed that both Megan and Kyle initially engaged in low levels of synchronous reciprocal interaction with peers during play dates without contextual support. Synchronous reciprocal interaction during this condition ranged from 30% to 40% of intervals for Megan and from 0% to 15% of intervals for Kyle, with no obvious trends. During play dates with contextual support, both children showed immediate increases in the percentage of intervals containing synchronous reciprocal interaction, ranging from 70% to 85%. For Megan, a reversal was conducted after two intervention points, and Figure 1 displays the return to low rates of synchronous reciprocal interactions during subsequent play dates without contextual support. When contextually supported intervention was implemented again, the data showed a return to high levels of synchronous reciprocal interaction that continued over a period of several months. Overall, the results from Figure 1 indicated that for both Megan and Kyle, the play dates without contextual support were associated with low levels of synchronous reciprocal interaction,

Table 2
Affect Rating Scale for Play Dates With and Without Contextual Support

Negative Affect (0–1)	Neutral Affect (2–3)	Positive Affect (4–5)
Within the interaction, child (target child or peer) appears discontent (e.g., frowns, cries), avoids social participation (e.g., tantrums, leaves activity, avoids others), and appears not to be enjoying self (e.g., seems frustrated, tense, impatient).	Within the interaction, child (target child or peer) does not appear to be either happy or unhappy, may engage in the activity but does not show clear interest or enthusiasm in social participation, and does not seem either stressed or relaxed.	Within the interaction, child (target child or peer) appears to be enjoying self (e.g., smiles, laughs, shows humor), shows interest through participation (e.g., actively involved in the activity), and appears relaxed and comfortable.

whereas contextually supported activities during play dates were associated with high levels of synchronous reciprocal interaction.

Affect ratings during these play dates are presented in Figure 2. The multiple baseline design across participants showed primarily neutral affect during the play dates without contextual support and positive affect during play dates with contextual support for both Megan and Kyle. In particular, affect ratings during play dates without contextual support were all in the neutral range, with ratings of either 3 or 2. Affect ratings during play dates with contextual support were in the positive range, with ratings of 4 or 5. Affect ratings for the participating peer showed the same pattern. In fact, the target child and peer received equivalent affect ratings in all but one probe. These data suggest that contextually supported activities resulted not only in increased levels of synchronous reciprocal interaction, but also in higher affect for both the target child and the peer.

Figure 3 shows data on one social validity outcome of these play date interactions within the context of the multiple baseline design. The figure shows the number of invitations Megan and Kyle received from their peers to come over and play across the course of both the baseline sessions and the intervention period. The data show that invitations from peers for both Megan and Kyle did not occur during baseline sessions. However, during intervention, as synchronous reciprocal interactions improved, both children began receiving more invitations from peers. Megan was receiving two or three invitations per month at the end of the inter-

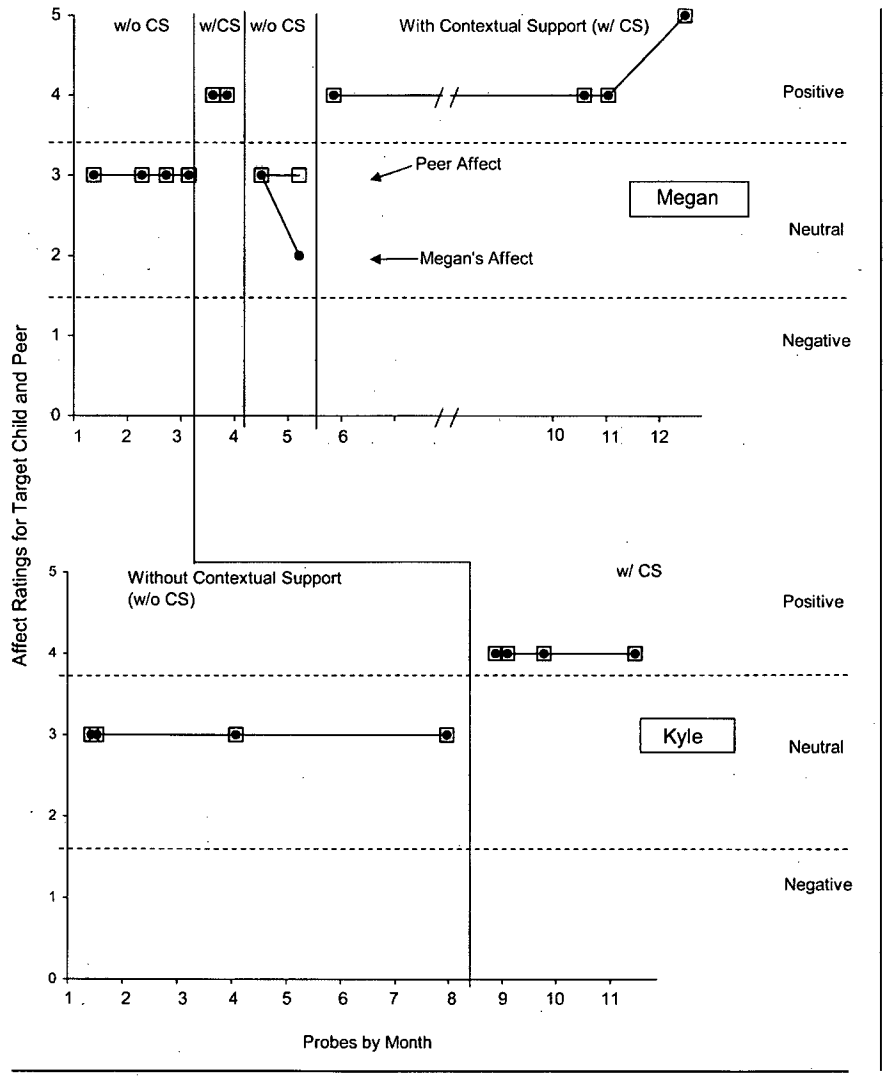

Figure 2. Overall affect ratings for target child and peer during play dates according to the following scale: negative affect (0–1), neutral affect (2–3), and positive affect (4–5).

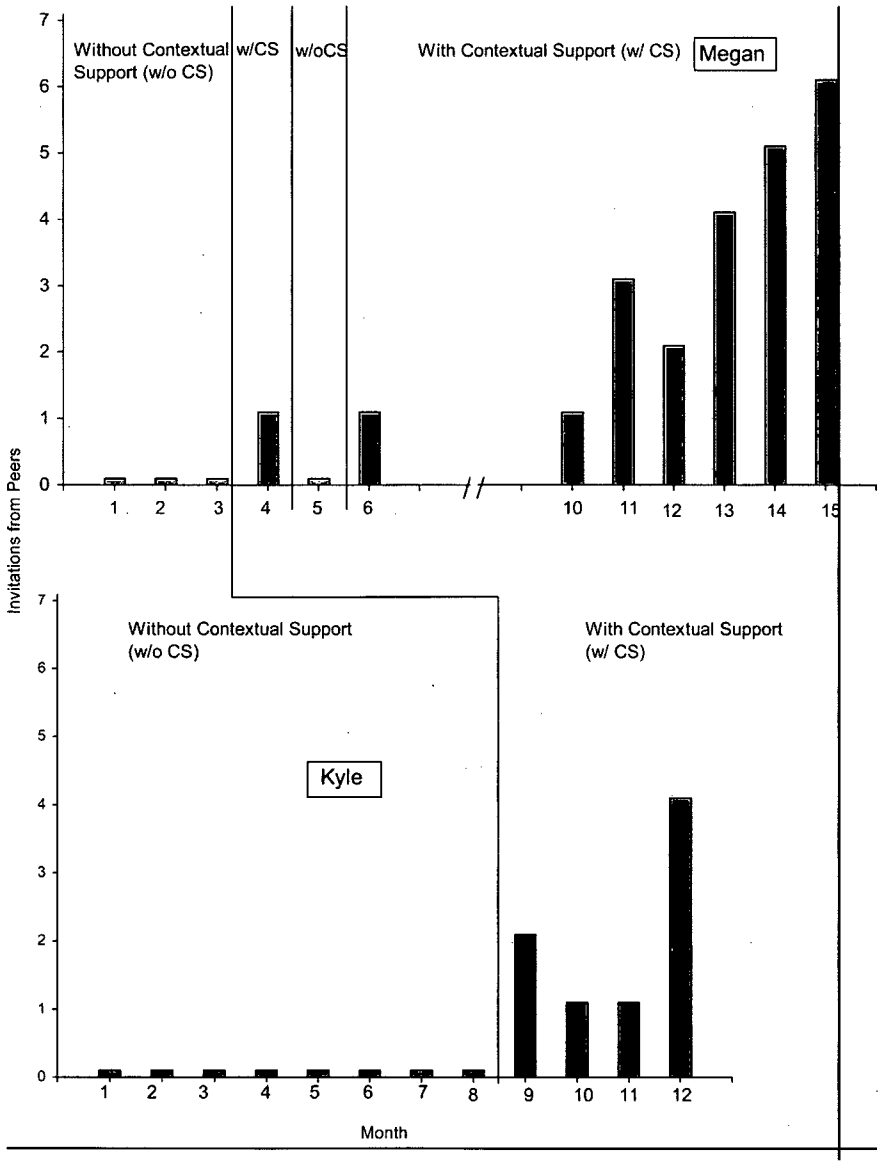

Figure 3. Number of play date invitations received from peers each month for Megan and Kyle.

vention, and these numbers continued to increase in the months after the intervention. In Kyle's case, by the last month of the intervention, the number of invitations had increased to four. These data suggest that in addition to improved reciprocal interaction and higher affect, the play dates initiated by Megan and Kyle's mothers resulted in peers making efforts to seek additional interaction with their children by inviting them over to play more often.

Discussion

The results of this study suggest that the contextual support intervention package consisting of mutually reinforcing activities, and adult facilitation of cooperative arrangements, had a broad impact on reciprocal social interaction and positive affect for both participants. In both cases, though these results should be considered preliminary, they were observable over an extended period of time. Supplemental measures of social validity also showed more frequent invitations from peers for both children.

Synchronous Reciprocal Interaction

Research on peer relationships during typical development has suggested that play dates at home are often a regular occurrence and seem to be a critical component in the development of close friendships in childhood (Ladd & Hart, 1992; Newson & Newson, 1976). Estimates of frequency differ among researchers, but

Frankel and Myatt (2003) suggested that children usually have one or two play dates per week. For children with autism, though, play dates occur rarely, if ever, which may have a negative effect on opportunities to develop friendships.

This study provides a methodology for improving the quality of interactions during play dates between children with and without disabilities. Specifically, the study's use of a contextual support intervention package produced significant increases in unprompted synchronous reciprocal interaction for both the children with autism and their peers. Despite the ample opportunity for peer interaction during play dates without the contextual support intervention, the children did not maintain social interactions until the contextual support intervention package was implemented. With the implementation of the intervention package, the children then showed that they were capable of high levels of reciprocal interaction. These results provide evidence for the success of the contextual support intervention package in promoting high levels of reciprocal interaction during play dates. Importantly, these reciprocal interactions were not directly prompted by the facilitator; the data reported represent unprompted interactions only. This means that the intervention package consisting of mutually reinforcing activities and adult facilitation of cooperative arrangements created a context to support increases in spontaneous social interaction. Thus the antecedent manipulations involved in the contextual support package were enough to promote high levels of synchronous reciprocal interaction for these children, who had not shown these high levels before.

The improvements in synchronous reciprocal interaction indicated that the children were capable of participating in reciprocal interactions but needed the contextual support package to engage in higher-quality social behaviors. These findings are consistent with the research on the difference between acquisition, performance, and fluency deficits (Gresham, Sugai, & Horner, 2001) and on interventions for social skills, including scaffolding (Schuler & Wolfberg, 2000; Wolfberg & Schuler, 1999). In Megan's case, the reversal to the condition involving play dates without contextual support showed that the effect was dependent on the contextual support intervention package and, at least at first, was too fragile to be maintained without this support.

Affect

Affect ratings showed distinct differences between the play dates with and without contextual support. The data suggested that both the target child and peer showed higher levels of enjoyment, interest, and comfort during contextually supported activities. Frankel and Myatt (2003) proposed that continued mutually enjoyable interactions during play dates could be considered indicative of play date success. In this study, high levels of affect during supported play interactions indicated mutual enjoyment and may therefore suggest that play dates were being viewed as successful by the children. This provided some hope that these children would want to participate in future play dates together.

Reciprocal Invitations

The data on peer invitations may have indicated increases in the peers' desire to spend additional time with Megan and Kyle and may suggest that the play date intervention influenced some aspects of friendship development. However, whereas our study showed increases in peer invitations as a result of our intervention package, we did not directly analyze the individual variables that may have contributed to these invitations. For example, the increased frequency and success of play dates may have improved the parents' skills at facilitating positive interactions. In turn, these successful experiences could have had a positive impact on the parents' confidence in interacting with parents of typically developing peers. Further research will be needed to investigate additional variables that may influence increases in invitations by peers. Indeed, in response to the increasing interest in friendships as desired intervention outcomes for children with disabilities, Sasso et al. (1998) suggested the need for including measures more directly related to friendships in reporting results of intervention. Specifically, invitations to parties and sleep-overs, as well as peer interest in interacting with the target child after school, were suggested as socially relevant measures. The increasing number of invitations from peers in this study represented the peers' continued interest in interacting with both children more frequently. Strain's (2001) article, emphasizing the important role of reciprocal interaction in friendship development, suggested that the high levels of unprompted synchronous reciprocal interactions observed in this study may have been influential in the increases in peer invitations that were found.

The increases in peer invitations seemed particularly important because friendship development and peer acceptance were main goals and had not been achieved before the intervention. The fact that the frequency of peer invitations increased from zero to more typical levels, such as one or two per week, is promising for these children's chances of continued friendship development and relates to the literature that emphasizes friendship as an increasingly important developmental goal and socially valid outcome for children with disabilities (Amado, 1993; Brown, Odom, & Conroy, 2001; Freeman & Kasari, 2002; Gresham, et al., 2001; Hurley-Geffner, 1995; McEvoy & Odom, 1987; Nickels, 1996; Strain & Schwartz, 2001; Turnbull, Pereira, & Blue-Banning, 1999).

Although this study showed promising outcomes resulting from the contextual support intervention package, these data should be considered preliminary in na-

ture, given some of the following limitations. First, the limited number of participants and similar participant characteristics (e.g., age, functioning level, socioeconomic status) suggest the need for replication of these results with varied populations. Refining this play date package for use with children of varying ages and developmental levels will be important in further addressing the social intervention needs of children with autism. This type of information may advance our knowledge on teaching the use of reciprocal social behaviors to help create meaningful relationships between children with and without disabilities (Apple, Billingsley, & Schwartz, 2005). Also, the implementation of a reversal design with one of the participants addresses some of the concerns of using a multiple baseline design with only two participants; however, future investigation is needed to support these preliminary results.

Future research is also needed to examine additional valid components for promoting effective play dates. Further analysis of the possible influence of variables such as setting and activity on child behavior will also be helpful in interpreting the results. Lastly, the inclusion of measures of fidelity of implementation in future studies will be important in further defining necessary intervention components and in informing parents and professionals of strategies for achieving meaningful outcomes. Future replications of these findings, particularly the increased number of peer invitations, may further clarify critical areas for ongoing intervention. The findings from this study provide initial information for the development of effective social intervention packages to be implemented in the natural environment, and suggest optimism that these interventions may have socially significant influences on the development of improved peer interactions and relationships for children with autism.

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Approach to autism spectrum disorder

Using the new DSM-V diagnostic criteria and the CanMEDS-FM framework

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Abstract

Objective To review the diagnostic criteria for autism spectrum disorder (ASD) from the *Diagnostic and Statistical Manual of Mental Disorders,* fifth edition (DSM-V), and to develop an approach to managing ASD using the CanMEDS–Family Medicine (CanMEDS-FM) framework.

Sources of information The DSM-V from the American Psychiatric Association, published in May 2013, provides new diagnostic criteria for ASD. The College of Family Physicians of Canada's CanMEDS-FM framework provides a blueprint that can guide the complex management of ASD. We used data from the Centers for Disease Control and Prevention to determine the prevalence of ASD, and we used the comprehensive systematic review and meta-analysis completed by the UK National Institute for Health and Care Excellence for their guidelines on ASD to assess the evidence for more than 100 interventions.

Main message The prevalence of ASD was 1 in 88 in 2008 in the United States according to data from the Centers for Disease Control and Prevention. The ASD classification in the fourth edition of the DSM included autism, Asperger syndrome, pervasive developmental disorder, and childhood disintegrative disorder. The new DSM-V revision incorporates all these disorders into one ASD umbrella term with different severity levels. The management of ASD is complex and requires a multidisciplinary team effort and continuity of care. The CanMEDS-FM roles provide a framework for management.

Conclusion Family physicians are the key leaders of the multidisciplinary care team for ASD, and the CanMEDS-FM framework provides a comprehensive guide to help manage a child with ASD and to help the child's family.

EDITOR'S KEY POINTS

- The prevalence of autism spectrum disorder (ASD) has risen dramatically, and ASD is now commonly encountered by family physicians in the clinical setting.
- The new definition of ASD in the *Diagnostic and Statistical Manual of Mental Disorders,* fifth edition, includes 4 different domains with subcriteria for diagnosis. It further classifies ASD by levels 1 to 3 for mild, moderate, or severe illness based on the degree of support the patient requires. It uses the one umbrella term *ASD* and no longer uses terms such as *Asperger syndrome, classic autism,* or *pervasive developmental disorder.*
- Using the roles in the CanMEDS–Family Medicine framework—communicator, collaborator, professional, scholar, manager, health advocate, and family medicine expert—as a guide, family doctors can provide support and advocate for families combating this challenging lifelong condition.

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The prevalence of autism spectrum disorder (ASD) in the United States has risen more than 75% in the past decade—from 1 in 150 in 2002 to 1 in 88 in 2008—according to data from the Centers for Disease Control and Prevention (CDC).[1] The CDC suggests that this increase is the result of a combination of better recognition of the disorder, improved diagnosis, and a true increase in prevalence. Only 10% of children with ASD have identifiable genetic or neurologic conditions such as fragile X syndrome, Down syndrome, or tuberous sclerosis. Common comorbidities include attention deficit hyperactivity disorder, obsessive-compulsive disorder, seizure, and anxiety.[2]

Using the new criteria for ASD from the *Diagnostic and Statistical Manual of Mental Disorders,* fifth edition (DSM-V),[3] family physicians can make timely diagnoses, and they can play an important role in the management and follow-up of these children using the CanMEDS–Family Medicine (CanMEDS-FM) framework.[4]

Case

Mrs Smith brings her 2-year-old son, John, to see you for an introductory visit. She moved into the city last year and this is her first visit. John was born at 39 weeks after an uneventful labour and delivery. His weight and height have been at the 55th to 60th percentile and his immunizations are up to date. He has

an older sister, aged 6 years, and no family history of note. Mrs Smith has had concerns about John's development, especially after her daughter complained about his lack of interest in their playing together. She recalls that at age 2 her daughter had more social and verbal interactions. She has noticed that John seems to be in his own world more than other children his age are.

A focused history reveals more red flags: John only says *mama* and *dada* and does not make eye contact. He does not smile when others smile at him. He gestures toward objects he desires but does not make eye contact while gesturing. He plays by himself, often flaps his hands, loves watching spinning objects, and always lines up his toys in a straight line. The physical examination shows no dysmorphic facial features consistent with fragile X syndrome or Down syndrome. John only responds to his name after multiple attempts with you kneeling at his eye level. There is no vocalization, no joint attention (which is normal by 8 to 10 months' development), and no index finger pointing to attract his mother's attention (which is normal by 14 to 16 months' development). What are the next steps?

Sources of information

Our main sources of information included the American Psychiatric Association's DSM-V,[3] the College of Family Physicians of Canada's CanMEDS-FM framework,[4] data from the CDC,[1,2] the M-CHAT (Modified Checklist for Autism in Toddlers) screening tool,[5] and the UK National Institute for Health and Care Excellence (NICE) guideline for the management of ASD.[6] The NICE guideline[6] is based on the most comprehensive systematic review and meta-analysis of the literature to date, and at 883 pages it is probably the longest systematic review in existence. It was conducted according to Cochrane Collaboration criteria and it analyzes each intervention in more than 100 forest plots. The authors preferred to treat each intervention separately, rather than using broader groupings, so power is lost in drawing broader conclusions.

Main message

The previous ASD classification in the fourth edition, text revision, of the DSM included autism, Asperger syndrome, pervasive developmental disorder (PDD), and childhood disintegrative disorder.[7] The new DSM-V in 2013 incorporated autism, Asperger syndrome, PDD, and childhood disintegrative disorder under the umbrella term *ASD* and provided new diagnostic criteria for ASD, with 4 domains and subcriteria in domains 1 and 2 (**Table 1**).[3] Because ASD is a spectrum with mild, moderate, and severe illness, there are now 3 levels of severity in the DSM-V.[3] Level 1 indicates the ASD patient requires support, level 2 requires substantial support, and level 3 requires very substantial support.[3]

The M-CHAT is a validated screening tool for ASD with 23 yes-or-no questions (**www.mchatscreen.com**).[5] Screening results are positive if the answer is no for any 3 of the 23 items or 2 of the 6 critical items (interest in other children, using the index finger to point, bringing objects to show parents, imitating, responding to one's name, and using one's eyes to follow an object across the room). A second-stage telephone follow-up to the M-CHAT can reduce false-positive results and unnecessary referral.

Assessment, investigations, and diagnosis. In John's case, even his 6-year-old sister has noticed he shows impairment in social and emotional reciprocity, with a lack of smiling and absence of joint attention. The absence of index finger pointing shows impairment in nonverbal communication. Hence, John meets the 3 subcriteria in domain 1 for impairment in social interaction and communication listed in the DSM-V (**Table 1**).[3]

John is also exhibiting stereotyped behaviour (flapping his hands) and hypersensitivity to sensory input (loves watching spinning objects), so he meets 2 of the 4 subcriteria in domain 2 for abnormal restrictive and repetitive behaviour, activities, and interests.[3] Because these impairments are also presenting in early childhood and affecting and hindering his everyday activities, clinically John has a suspected provisional diagnosis of ASD using the DSM-V classification. A hearing test and a blood test for complete blood count and ferritin, thyroid-stimulating hormone, and thyroxine levels will be useful to rule out other causes of developmental delay, and the M-CHAT screening questionnaire[5] should be offered with a scheduled follow-up visit.

Management plan for ASD. You see John for follow-up, and results of both his hearing test and blood test

Table 1. Criteria for diagnosis of autism spectrum disorder from the DSM-V

DOMAIN	CRITERIA
1	**Impairment in social interaction and communication** Subcriteria (impairment in all 3 required) • social and emotional reciprocity • nonverbal communication • creating and maintaining relationships
2	**Abnormal and repetitive behaviour, interests, and activities** Subcriteria (2 of 4 required) • stereotyped speech and behaviour • resistance to change • fixated interests • hypersensitivity or hyposensitivity to sensory input
3	**Presentation in early childhood development**
4	**Limited and hindered everyday activities**

DSM-V—*Diagnostic and Statistical Manual of Mental Disorders*, 5th ed.
Data from the American Psychiatric Association.[3]

are normal. His M-CHAT screening result is positive (the answer was no for 5 out of 6 critical items), so he has a provisional diagnosis of ASD. His treatment plan includes the following.

Referral to a developmental pediatrician, child psychiatrist, or psychologist with experience in ASD to confirm the diagnosis of ASD and to determine the level of severity: Arrange a referral to a developmental pediatrician. Advise Mrs Smith to contact the local chapter of the Autism Society (**www.autismsocietycanada.ca**) for peer group support and resources. Additional support groups for ASD include Autism Speaks (**www.autismspeaks.ca**).

An open discussion with John's parents about their concerns and feelings after receiving the diagnosis: Review the prevalence of ASD and its multifactorial causes, both genetic and nongenetic, with the Smiths. Order genetic bloodwork, including DNA microarray and testing for the FMR1 (fragile X mental retardation 1) gene. Screen for and address other comorbidities including sleep disturbance and gastrointestinal problems such as constipation, gastroesophageal reflux, and celiac disease.

Tips for Mrs Smith: Advise Mrs Smith to hold John's favourite snack or toy at eye level to encourage direct eye contact, and to interact and communicate before giving him the snack or toy. This is a simplified version of behavioural modification with stimulus, response, and reward. Remind her that children with ASD might have difficulties processing sensory input; she must be patient and allow at least 10 seconds for a response to occur. She can also try to download smartphone or tablet applications designed for children with ASD (who are frequently visual learners) to improve John's communication skills (eg, **www.autismspeaks.org/autism-apps**).

Help for Mrs Smith to start the process of referrals: Direct Mrs Smith to a social worker and applications for government funding to access speech therapy, occupational therapy, physiotherapy, behavioural modification, and respite care.

Follow-up care. You see John for follow-up after his consultation with the developmental pediatrician. It is confirmed that he has ASD with level 2 severity, and behavioural modification therapy is recommended. Mrs Smith is devastated and her whole family feels overwhelmed. What can a family physician do to help the Smith family in this difficult situation?

A useful approach for management of ASD is to use the CanMEDS-FM framework,[4] which includes the following 7 roles: communicator, collaborator, professional, scholar, manager, health advocate, and family medicine expert.

Communicator: It is essential to show empathy and support for Mrs Smith. Listen to her story and her concerns. Encourage her to view John as a child with a different ability to learn rather than as a child with a disability. Remind her to build on his strengths and work on his weaknesses.

Collaborator: Autism spectrum disorder is a lifelong illness. Treatment is aimed at improving communication and social interaction while reducing abnormal restrictive and repetitive behaviour, interests, and activities. There is evidence that the prognosis is better when joint attention is present by age 4 and functional speech by age 5, and there is better cognitive function if IQ is greater than 70 and the patient shows interest in interacting with typically developing peers.[8] This requires a multidisciplinary team that might include an experienced developmental pediatrician, a psychiatrist, a speech pathologist, a physiotherapist, an occupational therapist, a psychologist, and a behavioural care consultant, with the family physician being the main collaborator. Work with the social worker and sign the necessary forms for Mrs Smith to apply for government funding. When John reaches school age, collaborate with his teachers for individualized educational plans and advocate for appropriate aide time in class.

Professional: Have a high index of suspicion for early detection of ASD and provide timely referral and ongoing follow-up. It is important to discuss with Mrs Smith that the recurrent risk of ASD in subsequent pregnancies could be as high as 18.7%.[9] Arrange for peer group support via local chapters of the Autism Society.

Scholar: Review the latest literature on ASD to offer evidence-based treatment options. Myers and Johnson from the American Academy of Pediatrics suggested treatment tailored to the child's needs.[10] Ospina et al reviewed 101 studies of therapies for ASD and concluded that clinical management should be guided by individual needs and available resources.[11] The UK clinical guideline from NICE recommends the following:

> Good communication between healthcare professionals and children and young people with autism and their families and carers is essential. It should be supported by evidence-based written information tailored to the person's needs.[6]

Box 1 provides a summary of the NICE 2013 recommendations relevant to searches for resources that parents might initiate.[6] If Mrs Smith asks about proven interventions, the NICE systematic review provides a meta-analysis of all interventions to date.[6]

Manager: Offer to complete the Disability Tax Credit form (T2201) so that Mrs Smith can apply for a tax refund for John's impairment. Remind her to apply for guardianship for John before he turns 18 years of age. In terms of financial guidance, inform Mrs Smith to help John set up a registered disability savings plan once he is 18 years old. By contributing $1500 yearly to a registered disability savings plan, John could get up to $4500 from government matching grants and bonds.[12]

Health advocate: Advocate for physical fitness and social interaction using local resources.

Box 1. Summary of NICE 2013 recommendations relevant to searches for resources that parents might initiate

Specific interventions for the core features of autism
Psychosocial interventions
- Consider a specific social-communication intervention for the core features of autism in children and young people that includes play-based strategies with parents, carers, and teachers to increase joint attention, engagement, and reciprocal communication in the child or young person. Strategies should
  -be adjusted to the child's or young person's developmental level;
  -aim to increase the parents', carers', teachers', or peers' understanding of, and sensitivity and responsiveness to, the child's or young person's patterns of communication and interaction;
  -include techniques of therapist modeling and video-interaction feedback; and
  -include techniques to expand the child's or young person's communication, interactive play, and social routines.
- The intervention should be delivered by a trained professional. For preschool-aged children consider parent, carer, or teacher mediation. For school-aged children consider peer mediation.

Interventions for challenging behaviour
Anticipating and preventing challenging behaviour
- Assess factors that might increase the risk of challenging behaviour in routine assessment and care planning in children and young people with autism, including
  -impairments in communication that might result in difficulty understanding situations or in expressing needs and wishes;
  -coexisting physical disorders, such as pain or gastrointestinal disorders;
  -coexisting mental health problems, such as anxiety or depression and other neurodevelopmental conditions such as ADHD;
  -the physical environment, such as lighting and noise levels;
  -the social environment, including home, school, and leisure activities;
  -changes to routines or personal circumstances;
  -developmental change, including puberty;
  -exploitation or abuse by others;
  -inadvertent reinforcement of challenging behaviour; and
  -the absence of predictability and structure.

Interventions for life skills
Offer children and young people with autism support in developing coping strategies and accessing community services, including developing skills to access public transport, employment, and leisure facilities.

ADHD—attention deficit hyperactivity disorder, NICE—National Institute for Health and Care Excellence.
Reproduced from NICE.[6]

Family medicine expert: It is important to screen for parental and sibling depression in Mrs Smith's family. Encourage them to take advantage of respite care to avoid burnout. Maintain continuity of care for the whole family.

Conclusion

Autism spectrum disorder, with its alarming rise in prevalence, is a common condition that family physicians will encounter in the clinical setting. The new DSM-V definition of ASD has 4 different domains with subcriteria for diagnosis. It uses one umbrella term of *ASD* with different levels of severity and no longer uses terms such as *Asperger syndrome, classic autism,* or *PDD*. By using the elements of the CanMEDS-FM framework, family doctors can provide support and advocate for families in combating this challenging lifelong condition.

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Contributors
All authors contributed to the literature review and analysis, and to preparing the manuscript for submission.

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None declared

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Approche de prise en charge du trouble du spectre de l'autisme

À l'aide des nouveaux critères diagnostiques du DSM-V et du cadre CanMEDS-MF

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Résumé

Objectif Se pencher sur les critères diagnostiques du trouble du spectre de l'autisme (TSA) comme les définit le *Manuel diagnostique et statistique des troubles mentaux*, cinquième édition (DSM-V), et concevoir une approche de prise en charge du TSA à l'aide du cadre CanMEDS–Médecine familiale (CanMEDS-MF).

Sources d'information Le DSM-V, publié par l'American Psychiatric Association en mai 2013, énonce de nouveaux critères diagnostiques du TSA. Le cadre CanMEDS-MF du Collège des médecins de famille du Canada fournit un plan d'orientation pour la prise en charge complexe du TSA. Nous avons utilisé des données recueillies par le Centers for Disease Control and Prevention afin de déterminer la prévalence du TSA, ainsi que la revue systématique et méta-analyse détaillée effectuée par le National Institute for Health and Care Excellence du R.-U. pour ses lignes directrices sur le TSA dans le but d'évaluer les données probantes issues de plus de 100 interventions.

Message principal Selon les données du Centers for Disease Control and Prevention, la prévalence du TSA se chiffrait à 1 sur 88 en 2008 aux États-Unis. La classification du TSA dans la quatrième édition du DSM incluait l'autisme, le syndrome d'Asperger, le trouble envahissant du développement et le trouble désintégratif de l'enfance. La dernière révision du DSM-V réunit tous ces troubles sous la mention TSA, avec différents niveaux de sévérité. La prise en charge du TSA est complexe; elle exige les efforts d'une équipe multidisciplinaire ainsi que des soins continus. Les rôles CanMEDS-MF fournissent un cadre de prise en charge.

Conclusion Les médecins de famille sont au cœur de l'équipe de soins multidisciplinaire pour le TSA, et le cadre CanMEDS-MF tient lieu de plan détaillé pour guider la prise en charge d'un enfant atteint de TSA et aider la famille de cet enfant.

POINTS DE REPÈRE DU RÉDACTEUR

- La prévalence du trouble du spectre de l'autisme (TSA) a fait un bond spectaculaire, et ce trouble est maintenant souvent rencontré en contexte clinique par les médecins de famille.
- La nouvelle définition du TSA dans le *Manuel diagnostique et statistique des troubles mentaux*, cinquième édition, compte 4 domaines diagnostiques différents, lesquels sont subdivisés en sous-domaines. Elle classifie le TSA selon les niveaux 1 à 3 pour les cas légers, modérés et sévères en fonction du niveau de soutien exigé par le patient, abandonnant les appellations syndrome d'Asperger, autisme classique et trouble envahissant du développement au profit du terme générique TSA.
- Avec pour guide les rôles décrits dans le cadre CanMEDS–Médecine familiale, soit communicateur, collaborateur, professionnel, érudit, gestionnaire, promoteur de la santé et expert en médecine familiale, les médecins de famille peuvent jouer un rôle de soutien et de défense auprès des familles aux prises pour la vie avec cette affection difficile.

Cet article donne droit à des crédits Mainpro-M1. Pour obtenir des crédits, allez à www.cfp.ca et cliquez sur le lien vers Mainpro.

Cet article fait l'objet d'une révision par des pairs.
Can Fam Physician 2015;61:425-9

This article is also in English on page 421.

Aux États-Unis, la prévalence du trouble du spectre de l'autisme (TSA) a fait un bond de plus de 75 % dans les 10 dernières années, pour passer de 1 cas sur 150 en 2002 à 1 cas sur 88 en 2008, selon les données du Centers for Disease Control and Prevention (CDC)[1]. Le CDC laisse entendre que cette hausse comporte trois volets : une meilleure reconnaissance du trouble, l'amélioration du diagnostic et la hausse réelle de la prévalence. Seuls 10 % des enfants atteints du TSA présentent une affection génétique ou neurologique identifiable, comme le syndrome de l'X fragile, la trisomie ou la sclérose tubéreuse de Bourneville. Les comorbidités courantes sont le trouble déficitaire de l'attention avec hyperactivité, le trouble obsessif-compulsif, les crises convulsives et l'anxiété[2].

Grâce aux nouveaux critères diagnostiques du TSA tirés du *Manuel diagnostique et statistique des troubles mentaux*,

cinquième édition (DSM-V)[3], les médecins de famille peuvent poser un diagnostic ponctuel et jouer un rôle important dans la prise en charge et le suivi de ces enfants, à l'aide du cadre CanMEDS–Médecine familiale (CanMEDS-MF)[4].

Cas

M[me] Samson amène son garçon de 2 ans vous voir pour une visite initiale après avoir emménagé en ville l'an dernier. Jean est né à 39 semaines après un travail et un accouchement sans histoire. Son poids et sa taille se situent aux 55[e] et 60[e] percentiles, et son immunisation est à jour. Il a une sœur aînée, âgée de 6 ans, et ses antécédents familiaux sont normaux. M[me] Samson s'inquiète du développement de Jean, surtout après que sa fille lui eût dit qu'il n'est pas intéressé à jouer avec elle. Elle se rappelle qu'à l'âge de 2 ans, sa fille était plus interactive sur les plans social et verbal. Elle a remarqué que Jean semble être dans son petit monde plus que les autres enfants de son âge.

Une anamnèse ciblée révèle d'autres drapeaux rouges : les seuls mots au vocabulaire de Jean sont maman et papa et il n'établit pas de contact visuel. Il ne sourit pas lorsque les autres lui sourient. Il pointe vers les objets qu'il désire, mais il n'établit pas de contact visuel durant son geste. Il s'amuse tout seul, bat souvent des mains, adore observer les objets qui tournent et organise toujours se jouets en ligne droite. L'examen physique ne révèle aucune caractéristique polymorphique faciale annonçant un syndrome de l'X fragile ou une trisomie. Jean ne répond à son nom qu'après de multiples tentatives, agenouillé à son niveau. Il n'y a pas de vocalisation, pas d'attention conjointe (développement normal à 8 à 10 mois) et il ne pointe pas avec l'index pour attirer l'attention de sa mère (développement normal à 14 à 16 mois). Qu'allez-vous faire?

Sources d'information

Nos principales sources d'information étaient le DSM-V[3], publié par l'American Psychiatric Association, le cadre CanMEDS-MF[4] du Collège des médecins de famille du Canada, les données du CDC[1,2], l'outil de dépistage M-CHAT (Modified Checklist for Autism in Toddlers)[5] et les lignes directrices de prise en charge du TSA[6] du National Institute for Health and Care Excellence (NICE) au Royaume-Uni. Les lignes directrices de NICE[6] s'appuient sur la revue systématique et méta-analyse la plus détaillée de la littérature à ce jour, et avec ses 883 pages, elle est probablement aussi la revue systématique la plus longue qui ait jamais existé. Elle respecte les critères de la Collaboration Cochrane et analyse chaque intervention dans plus de 100 graphiques en forêt. Les auteurs ont préféré traiter chaque intervention séparément, plutôt que de les regrouper, ce qui aurait affaibli les données dans des conclusions plus larges.

Message principal

Dans la quatrième édition, Text Revision, du DSM, la classification du TSA incluait l'autisme, le syndrome d'Asperger, le trouble envahissant du développement (TED) et le trouble désintégratif de l'enfance[7]. Le nouveau DSM-V publié en 2013 regroupait autisme, syndrome d'Asperger, TED et trouble désintégratif de l'enfance sous le terme générique TSA, et fournissait de nouveaux critères diagnostiques du TSA, dont 4 domaines et des sous-domaines dans les domaines 1 et 2 (**Tableau 1**)[3]. Puisque le TSA peut être léger, modéré ou sévère, le DSM-V présente maintenant 3 niveaux de sévérité[3]. Le niveau 1 indique que le patient atteint de TSA exige du soutien, au niveau 2, le patient exige un soutien substantiel et au niveau 3, le patient exige un soutien très substantiel[3].

Le M-CHAT est un outil validé de dépistage du TSA qui compte 23 questions auxquelles on répond par oui ou non (**www.mchatscreen.com**)[5]. Le dépistage est positif si la réponse est non à 3 des 23 items ou à 2 des 6 items critiques (intérêt à l'égard des autres enfants, utilisation de l'index pour pointer, apporter des objets à ses parents, imitation, répondre à son nom et suivre des yeux un objet à travers la pièce). Un suivi téléphonique au M-CHAT réduit les faux positifs et les aiguillages inutiles.

Évaluation, investigations et diagnostic. Dans le cas de Jean, même sa sœur de 6 ans a remarqué des failles dans sa réciprocité sociale et émotionnelle, dont l'absence de sourire et d'attention conjointe. Le fait que Jean ne pointe pas avec son index montre un déficit de communication non verbale. Ainsi, Jean répond aux 3 sous-groupes du domaine 1 pour l'altération de l'interaction sociale et de la communication, énoncée dans le DSM-V (**Tableau 1**)[3].

Jean affiche également des comportements stéréotypés (battement des mains) et une hypersensibilité à la stimulation sensorielle (adore regarder les objets tourner); il répond donc à 2 des 4 sous-groupes du domaine 2 des comportements, activités et intérêts restreints et répétitifs anormaux[3]. Étant donné que ces déficits se présentent durant la petite enfance et perturbent les activités quotidiennes de Jean, celui-ci reçoit un diagnostic clinique provisoire de TSA soupçonné qui s'appuie sur la classification du DSM-V. Un test de l'audition, une formule sanguine complète ainsi que l'analyse du taux sanguin de ferritine, de thyréostimuline et de thyroxine seront utiles pour écarter les autres causes de retard du développement, et il faudrait administrer le questionnaire de dépistage M-CHAT et prévoir une visite de suivi.

Plan de prise en charge du TSA. Vous voyez Jean au suivi et les résultats de son test d'audition et de ses analyses sanguines sont normaux. Les résultats du M-CHAT sont positifs (la réponse était non à 5 des 6 items critiques; il reçoit donc un diagnostic provisoire de TSA. Son traitement comprend ce qui suit.

Tableau 1. Critères diagnostiques du trouble du spectre de l'autisme, selon le DSM-V

DOMAINE	CRITÈRE
1	**Altération de l'interaction sociale et de la communication** Sous-domaines (altération nécessaire dans les 3 sous-domaines) • réciprocité sociale et émotionnelle • communication non verbale • créer et maintenir des relations
2	**Comportements, intérêts et activités anormaux et répétitifs** Sous-domaines (2 exigés sur les 4) • comportement et parole stéréotypés • résistance au changement • fixation • hypersensibilité ou hyposensibilité à la stimulation sensorielle
3	**Présentation durant le développement de la petite enfance**
4	**Activités quotidiennes limitées et gênées**

DSM-V—*Diagnostic and Statistical Manual of Mental Disorders*, 5e édition
Données obtenues auprès de l'American Psychiatric Association[3].

Aiguillage à un pédiatre du développement, à un pédopsychiatre ou à un pédopsychologue expérimenté dans le TSA pour confirmer le diagnostic de TSA et en déterminer la sévérité : Obtenez un rendez-vous avec un pédiatre du développement. Conseillez à Mme Samson d'entrer en contact avec la section locale de la Société canadienne de l'autisme (**www.autismsocietycanada.ca**) pour obtenir des ressources et se joindre à un groupe de soutien par les pairs. Autism Speaks (**www.autismspeaks.ca**) est un autre groupe de soutien pour le TSA.

Discussion ouverte avec les parents de Jean pour connaître leurs préoccupations et sentiments après avoir reçu le diagnostic : Revoyez pour M. et Mme Samson la prévalence du TSA et ses causes multifactorielles, tant génétiques que non génétiques. Prescrivez des analyses sanguines génétiques, y compris des microréseaux d'ADN et du gène FMR1 (retard mental avec X fragile 1). Effectuez un dépistage pour d'autres comorbidités et traitez-les, y compris troubles du sommeil ou troubles gastro-intestinaux, tels que la constipation, le reflux gastro-œsophagien et la maladie cœliaque.

Conseils pour Mme Samson : Conseillez à Mme Samson de tenir le jouet ou la collation préférée de Jean à hauteur des yeux afin d'encourager le contact visuel, et d'interagir et de communiquer avant de lui donner la collation ou le jouet, une version simplifiée de l'approche de modification comportementale avec stimulus, réponse et récompense. Rappelez-lui que les enfants atteints de TSA pourraient avoir des difficultés à traiter les stimulations sensorielles; elle doit donc faire preuve de patience et attendre la réponse pendant au moins 10 secondes. Elle peut aussi télécharger des applications pour téléphone intelligent ou tablette conçues pour les enfants atteints de TSA (qui sont souvent des apprenants visuels) afin d'améliorer les compétences de Jean en matière de communication (p. ex. **www.autismspeaks.org/autism-apps**).

Aider Mme Samson à entreprendre le processus d'aiguillage : Recommandez à Mme Samson de consulter un travailleur social et de faire une demande de financement auprès du gouvernement afin d'obtenir des services d'orthophonie, d'ergothérapie, de physiothérapie, de modification du comportement et de soins de relève.

Soins de suivi. Vous voyez Jean pour un suivi après sa consultation avec le pédiatre du développement. Son diagnostic de TSA de niveau 2 est confirmé et un traitement de modification du comportement est recommandé. Mme Samson est bouleversée et la famille en entier est dépassée. Que peut faire le médecin de famille pour aider la famille Samson dans cette situation difficile?

Une approche utile de la prise en charge du TSA consiste à utiliser le cadre CanMEDS-MF[4], lequel inclut les 7 rôles suivants : communicateur, collaborateur, professionnel, érudit, gestionnaire, promoteur de la santé et expert en médecine familiale.

Communicateur : Essentiel pour faire preuve d'empathie et appuyer Mme Samson. Soyez à l'écoute de son histoire et de ses préoccupations. Encouragez-la à voir Jean comme un enfant qui apprend différemment plutôt que comme un enfant atteint d'une déficience. Rappelez-lui de renforcer ses forces et de travailler sur ses faiblesses.

Collaborateur : Le trouble du spectre de l'autisme est une maladie qui persiste à vie. Le traitement vise à améliorer la communication et l'interaction sociale tout en atténuant les comportements, activités et intérêts restreints et répétitifs anormaux. Certaines données indiquent que le pronostic s'améliore lorsque l'attention conjointe est présente à l'âge de 4 ans et la parole fonctionnelle, à l'âge de 5 ans, et que la fonction cognitive s'améliore lorsque le QI dépasse les 70 et que le patient est intéressé à interagir avec ses pairs au développement normal[8]. Cela nécessite une équipe multidisciplinaire pouvant inclure un pédiatre du développement expérimenté, un psychiatre, un orthophoniste, un physiothérapeute, un ergothérapeute, un psychologue et un conseiller en soins comportementaux, le médecin de famille étant le collaborateur principal. Collaborez avec le travailleur social et signez les formulaires nécessaires pour permettre à Mme Samson de faire une demande de financement auprès du gouvernement. Lorsque Jean atteindra l'âge scolaire, collaborez avec ses enseignants pour élaborer un plan d'éducation individualisé et recommander de l'aide appropriée en classe.

Professionnel : Maintenez un indice élevé de soupçon pour le dépistage précoce du TSA et procédez à l'aiguillage ponctuel et au suivi continu. Il est important de souligner à M^me^ Samson que le risque de récidive du TSA dans les grossesses subséquentes pourrait atteindre 18,7 % [9]. Organisez un groupe de soutien par les pairs par l'entremise de la section locale de la Société canadienne de l'autisme.

Érudit : Étudiez les publications les plus récentes sur le TSA afin d'offrir des options thérapeutiques fondées sur les données probantes. Myers et Johnson, de l'American Academy of Pediatrics, ont proposé que le traitement s'adapte aux besoins de l'enfant[10]. Ospina et coll. se sont penchés sur 101 études portant sur les traitements du TSA et ont conclu que la prise en charge clinique doit être guidée par les besoins individuels et les ressources disponibles[11]. Les lignes directrices de pratique clinique de NICE au R.-U. recommandent ce qui suit :

> Une bonne communication est essentielle entre les professionnels de la santé, les enfants et adolescents atteints d'autisme, et leurs familles et soignants. Cela doit être corroboré par des renseignements écrits basés sur des données probantes et adaptés aux besoins de la personne[6].

L'encadré 1 résume les recommandations 2013 de NICE qui sont pertinentes aux recherches éventuelles de ressources entreprises par les parents[6]. Si M^me^ Samson s'enquiert d'interventions éprouvées, la revue systématique de NICE fournit une méta-analyse de toutes les interventions effectuées à ce jour[6].

Gestionnaire : Offrez de remplir le formulaire T2201 - Certificat pour le crédit d'impôt pour personnes handicapées afin de permettre à M^me^ Samson de faire une demande de remboursement d'impôt pour l'invalidité de Jean. Rappelez-lui de faire une demande de tutelle pour Jean avant qu'il atteigne l'âge de 18 ans. Sur le plan financier, conseillez à M^me^ Samson d'aider Jean à ouvrir un Régime enregistré d'épargne-invalidité (REEI) dès qu'il aura 18 ans. En contribuant 1500 $ par année à un REEI, Jean pourrait recevoir jusqu'à 4500 $ en subventions et bons gouvernementaux[12].

Promoteur de la santé : Promouvoir la bonne forme physique et les interactions sociales à l'aide des ressources locales.

Expert en médecine familiale : Il importe de dépister la dépression chez les parents, les frères et les sœurs de la famille. Encouragez-les à bénéficier des soins de relève afin d'éviter l'épuisement. Maintenez la continuité des soins auprès de toute la famille.

Encadré 1. Résumé des recommandations de NICE pertinentes aux recherches éventuelles de ressources entreprises par les parents

Interventions précises visant les caractéristiques fondamentales de l'autisme

Interventions psychosociales

- Envisager une intervention sociale-communication précise pour les caractéristiques fondamentales de l'autisme chez les enfants et adolescents, y compris des stratégies par le jeu avec les parents, les soignants et les enseignants, afin d'accroître l'attention conjointe, l'engagement et la communication réciproque chez l'enfant ou l'adolescent. Les stratégies doivent :
  - -être adaptées au niveau de développement de l'enfant ou de l'adolescent;
  - -viser à accroître la compréhension, la sensibilité et la réactivité des parents, des soignants, des enseignants ou des pairs à l'égard du mode de communication et d'interaction de l'enfant ou de l'adolescent;
  - -inclure des techniques d'exemple du thérapeute et de rétroaction par interaction vidéo;
  - -inclure des techniques visant à amplifier la communication, le jeu interactif et les routines sociales de l'enfant ou de l'adolescent.
- L'intervention doit être exécutée par un professionnel spécialisé. Pour les enfants d'âge préscolaire, envisager la médiation par les parents, les soignants ou les enseignants. Pour les enfants d'âge scolaire, envisager la médiation par les pairs.

Interventions visant les comportements difficiles

Anticiper et prévenir les comportements difficiles

- Dans l'évaluation de routine et la planification des soins des enfants et adolescents autistes, évaluer les facteurs qui pourraient accroître le risque de comportements difficiles, y compris
  - -altération de la communication pouvant causer une mauvaise compréhension des situations ou une difficulté à exprimer les besoins ou les souhaits;
  - -troubles physiques coexistants, comme la douleur ou les troubles gastro-intestinaux;
  - -problèmes de santé mentale coexistants, comme l'anxiété ou la dépression et autres affections neurodéveloppementales, telles que le TDAH;
  - -environnement physique, comme l'éclairage et le bruit;
  - -environnement social, dont le domicile, l'école et les activités de loisir;
  - -modifications de la routine ou des circonstances personnelles;
  - -changements développementaux, y compris la puberté;
  - -exploitation ou violence par autrui;
  - -renforcement accidentel du comportement difficile;
  - -absence de prévisibilité et de structure.

Interventions visant les compétences de vie

Offrir aux enfants et aux adolescents autistes un soutien pour les aider à acquérir des stratégies d'adaptation et à accéder aux services communautaires, y compris l'acquisition de compétences pour accéder aux transports publics, à l'emploi et aux établissements de loisir.

TDAH—trouble déficitaire de l'attention avec hyperactivité, NICE—National Institute for Health and Care Excellence.
Reproduit de NICE[6].

Conclusion

Le trouble du spectre de l'autisme, dont la prévalence connaît une hausse alarmante, est une affection couramment rencontrée par les médecins de famille en contexte clinique. La nouvelle définition du TSA proposée par le DSM-V compte 4 domaines différents et des sous-domaines diagnostiques. Elle a laissé tomber les

appellations syndrome d'Asperger, autisme classique et trouble envahissant du développement au profit du terme générique TSA. En ayant recours aux éléments du cadre CanMEDS-MF, les médecins de famille peuvent jouer un rôle de soutien et de défense auprès des familles aux prises pour la vie avec cette affection difficile.

Le Dr **P.F. Lee** est professeur adjoint en médecine familiale et directeur des affaires étudiantes à la Faculté de médecine de l'Université de Calgary en Alberta. Le Dr **Thomas** est coordonnateur de la Collaboration Cochrane et professeur de médecine familiale à la Faculté de médecine de l'Université de Calgary. La Dre **P.A. Lee** est résidente de deuxième année au programme de résidence de médecine d'urgence à l'Université de Calgary.

Reconnaissance
Certains éléments du présent article ont été présentés à la 51e Assemblée scientifique annuelle du Collège des médecins de famille de l'Ontario, à Toronto (Ontario) le 30 novembre 2013. La revue de la littérature a été mise à jour, et l'article et les conseils ont été élargis.

Collaborateurs
Tous les auteurs ont contribué à la revue et à l'analyse de la littérature, de même qu'à la préparation du manuscrit aux fins de soumission.

Intérêts concurrents
Aucun déclaré

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Intensive Behavioral Treatment for Children With Autism: Four-Year Outcome and Predictors

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Abstract

Twenty-four children with autism were randomly assigned to a clinic-directed group, replicating the parameters of the early intensive behavioral treatment developed at UCLA, or to a parent-directed group that received intensive hours but less supervision by equally well-trained supervisors. Outcome after 4 years of treatment, including cognitive, language, adaptive, social, and academic measures, was similar for both groups. After combining groups, we found that 48% of all children showed rapid learning, achieved average posttreatment scores, and at age 7, were succeeding in regular education classrooms. Treatment outcome was best predicted by pretreatment imitation, language, and social responsiveness. These results are consistent with those reported by Lovaas and colleagues (Lovaas, 1987; McEachin, Smith, & Lovaas, 1993).

Behavioral approaches for addressing the delays and deficits common in autism have been recognized by many as the most effective treatment methods to date (Green, 1996; Maine Administrators of Service for Children With Disabilities, 2000; New York State Department of Health, 1999; Schreibman, 1988; Smith, 1993). The intervention developed at UCLA in the 1960s and 1970s is perhaps the best known and best documented (e.g., Dawson & Osterling, 1997; Green, 1996; Smith, 1993). Building on earlier research (e.g., Lovaas, Koegel, Simmons, & Long, 1973), Lovaas and staff of the UCLA Young Autism Project (1970 to 1984) began treatment with children under 4 years of age using a curriculum emphasizing language development, social interaction, and school integration skills. After 2 to 3 years of treatment, 47% of the experimental group (9 of 19 children) versus 2% of the comparison group (1 of 40 children) were reported to have achieved "normal functioning" (Lovaas, 1987; McEachin et al., 1993).

These findings demonstrated that many children with autism could make dramatic improvement, even achieve "normalcy," and many researchers now agree that intensive behavioral treatment can result in substantial gains for a large proportion of children (e.g., Harris, Handleman, Gordon, Kristoff, & Fuentes, 1991; Mundy, 1993). However, the UCLA findings also created considerable controversy, and the studies were criticized on methodological and other grounds (e.g., Gresham & MacMillan, 1998; Schopler, Short, & Mesibov, 1989). One criticism was that the UCLA group used the term *recovered* to describe children who had achieved IQ in the average range and placement in regular classrooms. Mundy (1993) suggested that children diagnosed with high functioning autism might achieve similar outcomes and pointed out that several of the recovered children in the follow-up study of the UCLA children at age 13 (McEachin et al., 1993) had clinically significant scores on some behavioral measures. The UCLA team responded by noting that (a) evaluators blind to background information had not identified the recovered children as different from neurotypical children and (b) a few elevated scores may not imply abnormality because several of the neurotypical peers had them as well (Smith, McEachin, & Lovaas, 1993). Questions were also

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raised regarding whether or not the UCLA results could be fully replicated without the use of aversives, which were part of the UCLA protocol, but are not acceptable in most communities (Schreibman, 1997). Some have questioned the feasibility of implementing the program without the resources of a university research center to train and supervise treatment staff (Sheinkopf & Siegel, 1998) and to help defray the cost of the program, which, due to the many hours of weekly treatment, can exceed $50,000 per year (although it has been argued that the cost of not providing treatment may be much greater over time: Jacobson, Mulick, & Green, 1998). Finally, because only about half of the children showed marked gains, the need for predictors to determine which children will benefit has been raised (Kazdin, 1993). Lovaas and his colleagues responded to these and other criticisms (Lovaas, Smith, & McEachin, 1989; Smith et al., 1993; Smith & Lovaas, 1997), but agreed with others that replication and further research were necessary.

There have now been several reports of partial replication without using aversives (Anderson, Avery, Di Pietro, Edwards, & Christian, 1987; Birnbrauer & Leach, 1993; Eikeseth, Smith, Jahr, & Eldevik, 2002; Smith, Groen, & Wynn, 2000). Most found, as did Lovaas and his colleagues, that a subset of children showed marked improvement in IQ. Although fewer children reached average levels of functioning, the treatment provided in these studies differed from the UCLA model in several ways (e.g., lower intensity and duration of treatment, different sample characteristics and curriculum, and less training and supervision of staff).

Anderson et al. (1987) provided 15 hours per week for 1 to 2 years (parents provided another 5 hours) and found that 4 of 14 children achieved an IQ over 80 and were in regular classes, but all needed some support. Birnbrauer and Leach (1993) provided 19 hours per week for 1.5 to 2 years and found that 4 of 9 children achieved an IQ over 80 (classroom placement was not reported), but all had poor play skills and self-stimulatory behaviors. The authors noted, however, that their treatment program had not addressed these areas. Smith et al. (2000) provided 25 hours per week for 33 months and reported that 4 of 15 children achieved an IQ over 85 and were in regular classes, but one had behavior problems. The authors noted that their sample had an atypically high number of mute children, 13 of 15, considerably higher than the commonly cited figure of 50% (Smith & Lovaas, 1997), and they hypothesized that this was the reason for the relatively low number of children functioning in the average range following treatment. Eikeseth et al. (2002) provided 28 hours per week for 1 year. In their sample, 7 of 13 children with pretreatment IQ over 50 achieved IQ over 85 and were in regular classes with some support. Data beyond the first year have not yet been reported.

Four groups of investigators discussed results based on behavioral treatment in classroom settings, which typically include a mix of 1:1 treatment and group activities, so that time in school may not be comparable to hours reported in home-based studies. Following 4 years of treatment, Fenske, Zalenski, Krantz, and McClannahan (1985) found that 4 of 9 children were placed in regular classes. However, neither pre–posttreatment test scores nor amount of support in school were reported. Harris et al. (1991) provided 5.5 hours per day in class and instructed parents to provide an additional 10 to 15 hours at home (no data were collected on actual hours parents provided). After 1 year of treatment, 6 of 9 children achieved IQ over 85, but were still in classes for students with learning disabilities. A later report (Harris & Handleman, 2000) found that 9 of 27 children achieved IQ over 85 and were placed in regular classes (time in treatment was not reported), but most required some support. Meyer, Taylor, Levin, and Fisher (2001) provided 30 hours of class time per week for at least 2 years and reported that 7 of 26 children were placed in public schools after 3.5 years of treatment, but 5 required support services. Pre–post IQ was not reported. Romanczyk, Lockshin, and Matey (2001) provided 30 hours of class time per week for 3.3 years and reported that 15% of the children were discharged to regular classrooms. No information on posttreatment test scores or the need for supports was provided.

In two studies researchers examined the effects of behavioral treatment for children with low pretreatment IQ. Smith, Eikeseth, Klevstrand, and Lovaas (1997) provided children who had pretreatment IQ less than 35 (M = 28) with 30 hours per week for 35 months and reported an increase in IQ of 8 points (3 of 11 children achieved increases of over 15 points) and 10 of 11 achieved single-word expressive speech. Eldevik, Eikeseth, Jahr, and Smith (in press) provided children who had an average pretreatment IQ of 41 with 22

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hours per week of 1:1 treatment for 20 months and reported an increase in IQ of 8 points and an increase in language standard scores of 11 points.

In three studies researchers examined results of behavioral treatment provided by clinicians working outside university settings in what has been termed *parent-managed treatment* because parents implement treatment designed by a *workshop consultant,* who supervises less frequently (e.g., once every 2 to 4 months) than the supervision that occurs in programs supervised by a local autism treatment center (e.g., twice per week). Sheinkopf and Siegel (1998) reported results for children who received 19 hours of treatment per week for 16 months supervised by three local providers. Six of 11 children achieved IQ over 90 and 5 were in regular classes, but still had residual symptoms. However, these children may not be comparable to high achievers in other studies because intelligence tests included the Merrill-Palmer, a measure of primarily nonverbal skills, known to yield scores about 15 points higher than standard intelligence tests that include both verbal and nonverbal scales. In the second study, Bibby, Eikeseth, Martin, Mudford, and Reeves (2002) described results for children who received 30 hours of treatment per week (range = 14 to 40) for 32 months (range = 17 to 43) supervised by 25 different consultants, who saw the children several times per year (median = 4, range = 0 to 26). Ten of 66 children achieved IQ over 85, and 4 were in regular classes without help. However, as the authors noted, their sample was unlike UCLA's in several ways: 15% had a pretreatment IQ under 37, 57% were older than 48 months, many received fewer than 20 hours per week, 80% of the providers were not UCLA-trained, and no child received weekly supervision. Weiss (1999) reported the results of a study in which children did receive high hours: 40 hours of treatment per week for 2 years. She saw each child every 4 to 6 weeks, reviewed videos of their performance every 2 to 3 weeks, and spoke with parents weekly. Following treatment, 9 of 20 children achieved scores on the Vineland Applied Behavior Composite (ABC) of over 90, were placed in regular classes, and had scores on the Childhood Autism Rating Scale in the nonautistic range (under 30). No pre- or posttreatment IQ data were reported.

Several researchers have described pretreatment variables that seem to predict (are highly correlated with) later outcome. Although findings have not always been consistent, the most commonly noted predictors have been IQ (Bibby et al., 2002; Eikeseth et al., 2002; Goldstein, 2002; Lovaas, 1987; Newsom & Rincover, 1989), presence of imitation ability (Goldstein, 2002; Lovaas & Smith, 1988; Newsom & Rincover, 1989; Weiss, 1999), language (Lord & Paul, 1997; Venter, Lord, & Schopler, 1992), younger age at intervention (Bibby et al., 2002; Fenske et al., 1985; Goldstein, 2002; Harris & Handleman, 2000), severity of symptoms (Venter et al., 1992), and social responsiveness or "joint attention" (Bono, Daley, & Sigman, 2004; L. Koegel, Koegel, Shoshan, & McNerney, 1999; Lord & Paul, 1997).

Multiple regression has been used to determine combinations of pretreatment variables with strong relationships with outcome. Goldstein (2002) reported that verbal imitation plus IQ plus age resulted in an R^2 of .78 with acquisition of spoken language. Rapid learning during the first 3 or 4 months of treatment has also been associated with positive outcome (Lovaas & Smith, 1988; Newsom & Rincover, 1989; Weiss, 1999). Weiss reported that rapid acquisition of verbal imitation plus nonverbal imitation plus receptive instructions resulted in an R^2 of .71 with Vineland ABC and .73 with Childhood Autism Rating Scale scores 2 years later.

We designed the present study to examine several questions. Can a community-based program operating without the resources, support, or supervision of a university center, implement the UCLA program with a similar population of children and achieve similar results without using aversives? Do significant residual symptoms of autism remain among children who achieve posttreatment test scores in the average range? Can pretreatment variables be identified that accurately predict outcome? We also examined the comparative effectiveness of a less costly parent-directed treatment model.

Method

Participants

Researchers at the Wisconsin site worked in collaboration with and observed the guidelines set by the National Institutes of Mental Health (NIMH) for Lovaas' Multi-Site Young Autism Project. Children were recruited through local birth to three (special education) programs. All children were screened for eligibility according to the following criteria: (a) age at intake between 24 and 42 months, (b) ratio estimate (mental age

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[MA] divided by chronological age [CA]) of the Mental Development Index of 35 or higher (the ratio estimate was used because almost all children scored below the lowest Mental Development Index of 50 from the Bayley Scales of Infant Development Second Edition (Bayley, 1993), (c) neurologically within "normal" limits (children with abnormal EEGs or controlled seizures were accepted) as determined by a pediatric neurologist (no children were excluded based on this criterion), and (d) a diagnosis of autism by independent child psychiatrists well known for their experience and familiarity with autism. All children also met the criteria for autism based on the Diagnostic and Statistical Manual of Mental Disorders–DSM-IV (American Psychiatric Association, 1994) and the Autism Diagnostic Interview-Revised (Lord, Rutter, & LeCouteur, 1994), both administered by a trained examiner. There were no parental criteria for involvement beyond agreeing to the conditions in the informed consent document, one of which was accepting random assignment to treatment conditions. The parents of all screened children agreed to participate, and none dropped out upon learning of their group assignment, minimizing bias in selection of participants and group composition.

Thirteen children began treatment in 1996, 11 in 1997, and 14 in 1998–1999. The last group had not completed treatment when the data from the first two groups were analyzed, and their data will be reported in a subsequent paper. The 24 children admitted during the first 2 years were 19 boys and 5 girls. One girl was placed in foster care after 1 year of treatment, and the foster parents did not wish to continue treatment for her. Her data were, therefore, excluded from the analysis. The remaining 23 children had completed 4 years of treatment (or had "graduated" earlier) at the time of this report, although 1 child switched to another provider of behavioral treatment after 1 year.

Design

In accordance with the research protocol approved by NIMH, we matched children on pretreatment IQ (Bayley MA divided by CA). They were randomly assigned by a UCLA statistician to the clinic-directed group (n = 13), replicating the parameters of the UCLA intensive behavioral treatment (Lovaas, 1987) or to the parent-directed group (n = 10), intended to be a less intensive alternative treatment.

All children received treatment based on the UCLA model. Parents in both groups were instructed to attend weekly team meetings and were encouraged to extend the impact of treatment by practicing newly learned material with their child throughout the day. Demographic information as well as hours of treatment and supervision are shown in Table 1. Children averaged 33 to 34 months of age at pretest and began treatment at 35 to 37 months. Children in the clinic-directed

Table 1. Demographic Information and Hours of Service by Group

Descriptor	Clinic-directed	Parent-directed
Boys, girls	11, 2	8, 2
One-parent families	0 of 13	1 of 10
Income		
Median ($)	62,000	59,000
(Range)	(35–100+)	(30–100+)
Education (BA)		
Mothers	9 of 12	9 of 10
Fathers	10 of 12	6 of 9
Siblings (mean)	2	2
No. nonverbal (%)	8/13 (62)	2/10 (20)
Age (months) (*SD*)		
Pretest	33.23 (3.89)	34.20 (5.06)
Treatment	35.00 (4.86)	37.10 (5.36)
Posttest	83.23 (8.92)	82.50 (6.61)
1:1 hours per week (*SD*)		
Year 1	38.60 (2.91)	31.67 (5.81)
Year 2	36.55 (3.83)	30.88 (4.04)
Senior therapist	6–10 hrs per week	6 hrs per month
	3, 2- to 3-hr sessions	1, 3-hr session per 2 wks
Team meetings	1 hr per week	1 hr per 1 or 2 weeks
Progress review	1 hr per wk for 1–2 years then 1 hr per 2 months	1 hr every other month

Note. The 1:1 hours for parent-directed children excludes one child who received 14 hours per week.

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group were to receive 40 hours per week of direct treatment. The actual average was 39 during Year 1 and 37 during Year 2, with gradually decreasing hours thereafter as children entered school. Parents in the parent-directed group chose the number of weekly treatment hours provided by therapists. The average was 32 hours during Year 1 and 31 during Year 2, with the exception of one family that chose to have 14 hours both years. Because the parent-directed children as a group received more intensive treatment than was provided in most previous studies, only 6 to 7 hours less than the clinic-directed group, our ability to examine the effect of differences in treatment intensity was limited.

The clinic-directed group received 6 to 10 hours per week of in-home supervision from a senior therapist and weekly consultation by the senior author or clinic supervisor. Parent-directed children received 6 hours per month of in-home supervision from a senior therapist (typically a 3-hour session every other week) and consultation every 2 months by the senior author or clinic supervisor.

Direct treatment staff, referred to as *therapists,* were hired by Wisconsin Early Autism Project staff members for both the clinic- and parent-directed groups. Funding for 35 hours of 1:1 treatment per week was provided through the Wisconsin Medical Assistance program. Treatment hours in excess of 35 were funded through project funds.

Measures

We used the Bayley Scales of Infant Development, Second Edition, to determine pretreatment IQ. In addition we used the Merrill-Palmer Scale of Mental Tests (Stutsman, 1948), an older test of intelligence recommended for use with nonverbal children (Howlin, 1998), as a measure of nonverbal intelligence but not pre- or posttreatment IQ. We employed the Reynell Developmental Language Scales (Reynell & Gruber, 1990) to assess language ability, because of its extensive psychometric data for preschool-age children, and the Vineland Adaptive Behavior Scales (Sparrow, Balla, & Cicchetti, 1984) to measure adaptive functioning. Subscales of the Vineland assess Communication in Daily Life, Daily Living Skills, and Social Skills. Information regarding developmental history (including loss of language and other skills), use of supplemental treatments and pretreatment presence of functional speech was gathered from parent interviews, reports from other professionals, and direct observation.

Follow-up testing was administered annually for 4 years. As children grew older or became too advanced for the norms of pretreatment tests, we used other age-appropriate tests. Cognitive functioning of older children was assessed using Wechsler tests for 20 children—Wechsler Preschool and Primary Scale of Intelligence-Revised-WPPSI (Wechsler, 1989); Wechsler Intelligence Scale for Children—WISC-III (Wechsler, 1991)—and the Bayley II for 3 children. Although we assessed nonverbal cognitive functioning, it was not used as a measure of posttreatment IQ; we employed the Leiter-R for 11 children (Roid & Miller, 1995, 1997) and the Merrill-Palmer for 12 children. Language was measured using the Clinical Evaluation of Language Fundamentals, Third Edition—CELF III (Semel, Wiig, & Secord, 1995) for 11 children and the Reynell for 12 children. We administered the Vineland to all children for assessment of adaptive functioning.

To assess posttreatment social functioning, we readministered the Autism Diagnostic Interview-Revised and used the Personality Inventory for Children (Wirt, Lachar, Klinedinst, & Seat, 1977), which was completed by parents of all 23 children after 3 years of treatment. After 4 years of treatment, when the children were approximately 7 years old, parents and teachers completed the Child Behavior Checklist (Achenbach, 1991a, 1991b) and Vineland for all 23 children. Bierman and Welsh (1997) noted that "teacher ratings are superior to those of other informants and provide information regarding peer interaction and group acceptance that are closest to those of peers" (p. 348). Information was obtained from teachers on classroom placement (regular, regular with modified curriculum, partial special education [e.g., pullout/resource room or full special education], and supportive/therapeutic services [e.g., classroom aide, speech or occupational therapy]) when the children were 7 years old. We used the Woodcock-Johnson III Tests of Achievement (Woodcock, McGrew, & Mather, 2001) to measure academic skills of children placed in regular education classes at age 7.

The second author administered the pretreatment assessment battery prior to children being assigned to treatment groups. She received training in assessment at UCLA and met criterion for satisfactory intertester reliability. One fourth of the children in the current study were tested prior

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to treatment by unaffiliated community psychologists. These children earned a ratio IQ of 50.3 on the Bayley administered by the independent psychologists and 47.3 from the Wisconsin Project evaluator. The mean absolute difference was three points, $r = .83$, indicating absence of bias by the Wisconsin Project evaluator. Children who achieved IQs of 85 or higher at annual follow-up testing were thereafter referred for assessment by psychologists who had extensive experience testing children with autism at hospital-based assessment clinics that were not affiliated with the Wisconsin Project. These psychologists, who were unaware of group assignment or length of time in treatment, used the tests listed above. Follow-up testing of most children whose IQ remained delayed was conducted by the second author to reduce cost.

One experimental assessment procedure, the Early Learning Measure developed at UCLA (Smith, Buch, & Gamby, 2000) was administered to measure the rate of acquisition of skills during the first several months of treatment. Every 3 weeks for 3 months leading up to the beginning of treatment and for 6 months after treatment started, the same list of 40 items (10 each of verbal imitation, nonverbal imitation, following verbal instructions, and expressive object labeling), which was known only to the experimenter, was presented to the children. Two sets of scores were obtained from the Early Learning Measure. The first was the number of items the child performed correctly prior to the onset of treatment. The second set of scores was the number of weeks required for the child to learn 90% of the verbal imitation items once treatment had begun, thereby providing a measure of the child's rate of acquisition. This criterion was selected based on earlier research with the Early Learning Measure, which suggested the predictive validity of rapid acquisition of verbal imitation (Lovaas & Smith, 1988).

Treatment Procedure

The treatment procedure and curriculum were those initially described by Lovaas (Lovaas et al., 1981), except that no aversives were used, with the addition of procedures supported by subsequent research (e.g., R. Koegel & Koegel, 1995), which have been widely disseminated (e.g., Maurice, Green, & Luce, 1996). Positive interactions were built by engaging in favorite activities and responding to the gestures used by each child to indicate desires. Anticipation of success and motivation to attend were increased by employing brief, standard instructions and tasks requiring only visual attending (e.g., matching), using familiar materials (e.g., the child's own ring stacker), prompting success (physically assisting him or her to place a ring on the pole if a demonstration was not sufficient), presenting only two or three trials at a time, and reinforcing each response immediately with powerful reinforcers (e.g., edibles, physical play, or enthusiastic proclamations of success (such as "Fantastic!"). Between these brief (initially 30 seconds long) learning periods, staff members played with the children to keep the process more like play than work, generalize learned material into more natural settings, and continue to build social responsiveness.

Receptive language was generally targeted before expressive language. We used familiar instructions where success was easily prompted, such as "sit down" or "come here." Expressive language began with imitation training, first nonverbal then vocal imitation, beginning with single sounds and gradually progressing to words. Requesting was taught as early as possible, initially using nonverbal strategies if necessary (e.g., gesturing, signing, or the Picture Exchange Communication System–PECS (Bondy & Frost, 1994), in order to reduce frustration (Carr & Durand, 1985) and increase the child's frequency of communicative initiations (Hart & Risley, 1975). Children who showed more modest gains in treatment, referred to as *visual learners* by the UCLA group, denoting difficulty in processing language, took longer to acquire verbal imitation and language.

Having learned many labels, children were taught more complex concepts and skills, such as categorization and speaking in full sentences. Social interaction and cooperative play were taught as part of the in-home program, expanding from playing with staff, to playing with siblings, and then peers for up to 2 hours per day (this was more successful with the subgroup of rapidly learning children). As the children acquired social skills, they began mainstream (as opposed to special education) preschool, usually for just 1 or 2 half-days (2.5 hours each) per week. A trained *shadow* (one of the home treatment team members) initially accompanied the child to assist with attending to the teacher's instructions, joining others on the playground, and noting social errors to be addressed in 1:1 sessions at home.

Those children who progressed at a rapid pace

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were taught the beginnings of inferential thought (e.g., "Why does he feel sad?"). Social and conversation skills, such as topic maintenance and asking appropriate questions, were taught using role-playing (e.g., Jahr, Eldevik, & Eikeseth, 2000), video modeling (Charlop & Milstein, 1989), social stories (Gray, 1994), straightforward discussion of social rules and etiquette, and in-vivo prompting.

Academic skills were also targeted, raising the level of proficiency of rapidly learning children to first grade levels. Common classroom rules and school "survival skills" (e.g., responding to group instructions and raising one's hand to be called on–Dawson & Osterling, 1997) were taught through "mock school" exercises with several peers at home.

Staff training. Therapists were at least 18 years old, had completed a minimum of 1 year of college, and were screened for prior police contacts. Therapists received 30 hours of training, which included a minimum of 10 hours of one-to-one training and feedback while working with their assigned child. Each therapist worked at least 6 hours per week (usually three 2-hour shifts) and attended weekly or bi-weekly team meetings. Senior therapists had at least a 4-year college degree and experience consisting of 1 year as a therapist with at least two children, followed by an intensive 16-week internship program modeled after that at UCLA, for a total of 2,000 hours.

Treatment fidelity. Senior therapists and clinic-directed therapists were required to meet quality control criteria set at UCLA. This involved passing two tests. The first was a written test designed to assess knowledge of basic behavioral principles and treatment procedures described in *The Me Book* (Lovaas et al., 1981). Second, they were required to pass a videotaped review of their work (conducted by Tristram Smith, research director of the Multi-Site Project, who used the protocol described by R. Koegel, Russo, and Rincover, 1977). All senior therapists also received weekly supervision by the senior author.

Progress reviews, which the child, parents, and senior therapist attended, were held weekly for clinic-directed children and every 2 months for parent-directed children. At these reviews, the senior author or the UCLA-trained clinic supervisor observed the child's performance and recommended appropriate changes in the program. Both the senior author and clinic supervisor had met the UCLA criteria for Level Two Therapist, denoting sufficient experience and expertise in program implementation to work independent of supervision. The senior author had directed a behaviorally oriented inpatient unit for children with autism for 14 years and had trained at UCLA for 6 months. The clinic supervisor had a BA in psychology, 1 year of experience as a therapist, 2 years of full-time experience as a senior therapist, and had completed a 9-month internship at UCLA.

Data Analysis

Data analysis was carried out by a fourth year graduate student from the University of Wisconsin Department of Statistics, with consultation from a university research psychologist. We conducted an ANOVA with a least squares solution for unequal group size, used to examine treatment effects. To compare the clinic-directed and parent-directed groups, we used 2 × 2 ANOVAS (Clinic-Directed vs. Parent-Directed × Pre- vs. Posttest scores as repeated measures). An initial examination of pre–post IQ data showed that the distribution of scores was bimodal. As can be seen in Figure 1, children showed either rapid progress or more moderate progress, with no overlap between outcome distributions. This is consistent with earlier research (Birnbrauer & Leach, 1993; Howard, Sparkman, Cohen, Green, & Stanislaw, 2005; O. I. Lovaas, personal communication, August 27, 2003). Consequently, changes in scores for rapid learners and moderate learners were analyzed separately.

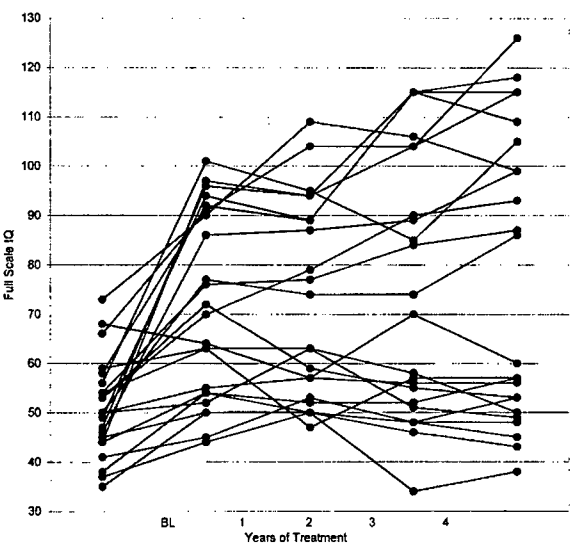

Figure 1. Changes in Full Scale IQ during 4 years of behavioral treatment.

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In examining pretreatment scores of children who would later be identified as rapid learners, we found that those in the clinic-directed group had higher mean IQ (60.40, standard deviation [*SD*] = 8.31 compared to those in the parent-directed group (51.00, *SD* = 7.02), $t(9) = 1.84, p < .05$ (one tailed), Vineland scores (clinic-directed = 64.8, *SD* = 2.32; parent-directed = 59.83, *SD* = 3.34), $t(9) = 2.31, p < .05$ (one tailed), and Verbal Imitation (clinic-directed = 3.88; parent-directed = 1.67), $W(4, 6) = 31, p = .03$ (Wilcoxon test). Because these pretreatment differences would interfere with clear interpretation of posttreatment differences between subgroups (e.g., clinic-directed vs. parent-directed rapid learners), these comparisons were omitted. We used linear and logistic regression (best subset selection approach–Hosmer, Jovanovic, & Lemeshow, 1989) to develop prediction models using pretreatment measures as predictors of 3-year outcome.

Results

The average Full Scale IQ for all 23 children increased from 51 to 76, a 25-point increase. Eight of the children achieved IQs of 85 or higher after 1 year of treatment (5 clinic-directed and 3 parent-directed), and 3 more reached this level after 3 to 4 years (3 parent-directed) for a total of 11, or 48%, of the 23 children. Children with higher pretreatment IQs were more likely to reach 4-year IQs in the average range (75% of children with IQs between 55 and 64 versus 17%, 1 of 6 children with IQs between 35 and 44).

As shown in Table 2, there were no significant differences between groups at pre- or posttest. Combining children in both groups, we found that pretest to posttest gains were significant for Full Scale IQ, $F(1, 21) = 18.77, p < .01$, Verbal IQ, $F(1, 18) = 13.39, p < .01$, Performance IQ, $F(1, 18) = 46.79, p < .01$, receptive language, $F(1, 21) = 9.18, p < .01$, Vineland Communication, $F(1, 21) = 7.57, p < .05$, Vineland Socialization, $F(1, 21) = 10.30, p < .01$, Autism Diagnostic Interview-Revised Social Skills, $F(1, 18) = 19.15, p < .01$, and Communication, $F(1, 18) = 41.19, p < .01$.

Rapid and Moderate Learners

A group of rapid learners showed much larger improvements than did moderate learners (analogous to the terms *best outcome* and *non-best outcome* used in UCLA reports). Figure 1 shows Full Scale IQs prior to treatment and over the next 4 years for all 23 children. Eleven of them (5 clinic-directed and 6 parent-directed) showed a large increase in IQ, from a mean of 55 prior to treatment to 104 after 4 years. These rapid learners represented 48% of all 23 children. The IQ of the remaining 12 children (8 clinic-directed and 4 parent-directed) did not show a significant increase, consistent with earlier UCLA reports (e.g., Smith et al., 2000).

Pre- and posttreatment scores of rapid and moderate learners are shown in Table 3. Rapid learners showed significant gains in all areas measured (i.e., Full Scale IQ, $F(1, 21) = 143.19, p < .01$, Verbal IQ, $F(1, 18) = 70.76, p < .01$, Performance IQ, $F(1, 18) = 165.27, p < .01$, Nonverbal IQ, $F(1, 19) = 16.69, p < .01$, Receptive Language, $F(1, 20) = 217.76, p < .01$, Expressive Language, $F(1, 20) = 77.76, p < .01$, and all Vineland subscales: Communication, $F(1, 21) = 147.07, p < .01$, Daily Living Skills ($F(1,21) = 20.50$, $p < .01$), Socialization, $F(1, 21) = 42.89, p < .01$, and Applied Behavior Composite, $F(1, 21) = 54.17, p < .01$). However, the rate of increase over time, skill areas, and children was not uniform. As can be seen in Figure 2, during the first year, Performance IQ of rapid learners rose to the average range (a 40-point increase, WPPSI-R), whereas Verbal IQ and Vineland Socialization scores rose to around 80 (a 25-point increase) and language scores (Reynell and Clinical Evaluation of Language Fundamentals) rose only to the 60s. Changes during the second year of treatment were comparatively modest, perhaps reflecting the effect of having acquired speech during the first year but still lacking more complex language. The rate of improvement increased again during the third and fourth years, and all scores increased to the average range.

The gradual decrease in the slope of the graphs in Years 3 and 4 is largely an artifact of increasing age and does not reflect a decrease in rate of MA growth, which, except for the large increase during Year 1, averaged 18 months per year throughout the study. This rate of growth in skills is necessary for children with pretreatment scores below 60 to "catch up" to peers. Although some writers have noted a rate of growth among treated children of 10 to 12 months per year, this is not enough for them to reach scores in the average range within just a few years (Howard et al., 2005), and the longer that children are delayed, the more skills they must learn to catch up.

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Table 2. Pretreatment and Outcome Scores of Clinic- (CD) and Parent-Directed (PD) Groups

Measure/ Group	Pretreatment		Posttreatment		ANOVA, combined groups, pre- vs. posttreatment (*df*)
	Mean	*SD*	Mean	*SD*	
Full Scale IQ					
CD	50.85	10.57	73.08	33.08	18.77 (1,21)**
PD	52.10	8.98	79.60	21.80	
Verbal IQ					
CD	—	—	78.00	33.48	13.39 (1,18)**
PD	—	—	76.30	26.66	
Perform IQ					
CD	—	—	84.90	25.86	46.79 (1,18)**
PD	—	—	90.70	20.72	
Nonverbal IQ					
CD	70.58	16.54	77.58	25.24	2.07 (1,21)
PD	82.67	14.94	89.44	18.35	
Rec Language					
CD	38.85	6.09	55.85	36.23	9.18 (1,21)**
PD	38.78	6.44	65.78	25.81	
Exp Language					
CD	47.92	6.17	53.38	31.91	1.30 (1,20)
PD	48.44	6.96	59.22	25.13	
Vineland					
Com					
CD	57.46	4.97	73.69	32.32	7.57 (1,21)*
PD	63.20	5.58	81.40	24.33	
DLS[a]					
CD	63.92	5.53	66.23	25.95	.11 (1,21)
PD	64.20	3.68	64.20	12.42	
Soc					
CD	58.38	6.17	73.92	23.49	10.30 (1,21)**
PD	60.30	5.76	68.90	10.11	
ABC[b]					
CD	59.54	5.31	69.00	28.04	2.81 (1,21)
PD	60.90	5.94	66.70	14.68	
ADI-R[c]					
Social					
CD	17.54	3.73	12.33	10.58	19.15 (1,18)**
PD	18.90	1.14	13.10	9.42	
Com					
CD	12.85	2.44	8.08	6.91	41.19 (1,18)**
PD	12.90	1.22	8.80	7.43	
Ritual					
CD	5.38	1.69	5.08	3.75	1.72 (1,18)
PD	6.40	1.11	5.60	3.50	

Note. CD $n = 13$; PD $n = 10$ except for Verbal IQ and Performance IQ, where n was 10 for both groups because 3 CD children had only Bayley tests. Neither the main effect of groups (CD vs. PD) nor the interaction of groups by time was significant for any variable. Full scale IQs at pretreatment are Bayley scores.
[a]Daily living skills. [b]Adaptive Behavior Composite. [c]Autism Diagnostic Interview-Revised.
*$p < .05$. **$p < .01$.

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Table 3. Pretreatment and Outcome Scores of Rapid (R) and Moderate (M) Learners

Measure/ Group	Pretreatment Mean	Pretreatment *SD*	Posttreatment Mean	Posttreatment *SD*	ANOVA Pre–Post comparisons
Full Scale IQ					
R	55.27	8.96	103.73	13.35	143.19 (1,21)**
M	47.83	9.37	50.42	6.98	0.45 (1,21)
Verbal IQ					
R	—	—	101.45	18.72	70.76 (1,18)**
M	—	—	47.44	2.06	.02 (1,18)
Perform IQ					
R	—	—	107.55	9.44	165.27 (1,18)**
M	—	—	63.67	8.43	11.81 (1,18)**
Nonverbal IQ					
R	83.56	14.84	108.78	10.96	16.69 (1,19)**
M	69.83	15.93	67.70	12.35	0.19 (1,19)
Rec Language					
R	39.30	6.91	93.60	12.64	217.76 (1,20)**
M	38.42	5.59	31.83	9.87	3.84 (1,20)
Exp Language					
R	49.90	7.75	85.70	15.07	77.76 (1,20)**
M	47.50	6.54	30.83	5.89	20.24 (1,20)**
Vineland					
Com					
R	60.82	4.02	105.09	12.83	147.07 (1,21)**
M	59.17	7.22	51.33	10.94	5.07 (1,21)*
DLS[a]					
R	66.45	4.25	82.27	16.34	20.50 (1,21)**
M	61.83	4.20	49.83	10.61	12.87 (1,21)**
Soc					
R	61.55	6.58	87.73	14.94	42.89 (1,21)**
M	57.08	4.63	57.08	6.40	0.00 (1,21)
ABC[b]					
R	61.73	4.59	88.64	15.68	54.17 (1,21)**
M	58.67	6.09	49.08	7.76	7.51 (1,21)*
ADI-R[c]					
Social					
R	16.45	3.26	4.18	4.37	46.89 (1,21)**
M	19.67	1.55	21.18	6.28	0.43 (1,21)
Com					
R	11.00	3.54	2.00	2.73	52.04 (1,21)**
M	13.75	0.60	14.81	3.59	1.26 (1,21)
Ritual					
R	5.91	1.62	2.73	2.67	16.46 (1,21)**
M	5.92	1.44	7.91	2.47	4.87 (1,21)*

Note. R $n = 11$; M $n = 12$. Posttreatment language scores for moderate learners are Reynell ratio scores (AE/CA), which are about 10 points lower than standard scores. Effect size expressed as proportion of variance was .88 for Full Scale IQ, .90 for receptive language, .84 for expressive language, and .73 for Vineland ABC, all quite large (Cohen, 1988). Full Scale IQs at pretreatment are Bayley scores.

[a]Daily living skills. [b]Adaptive Behavior Composite. [c]Autism Diagnostic Interview-Revised.

*$p < .05$. **$p < .01$.

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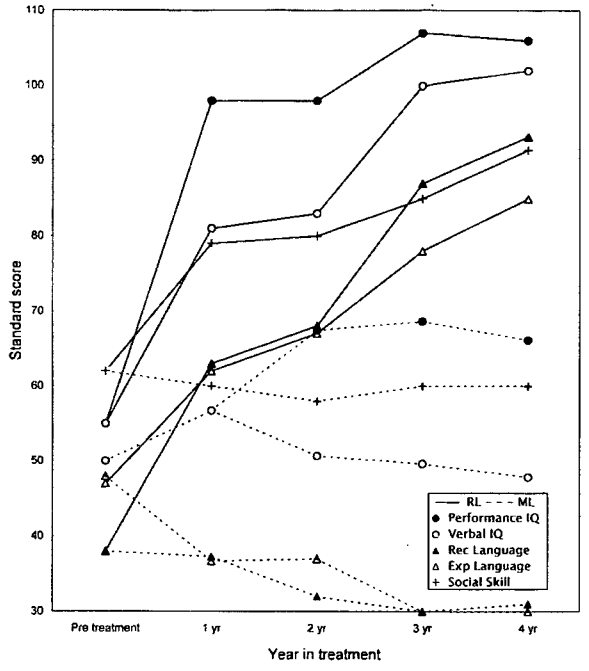

Figure 2. Mean IQ, language, and socialization scores during treatment for rapid (RL) and moderate (ML) learners. Initial IQ and language scores are ratio scores as are all language scores of moderate learners.

Most parents waited until their children were 6 years old to enter kindergarten, per our recommendation, in order to allow them more time to acquire social interaction skills. At an average age of 7.67, the 11 rapidly learning children were succeeding in regular first or second grade classes following the regular curriculum. On the Woodcock Johnson III Tests of Achievement, Oral Expression averaged 102 (SD = 11.9, 1 scored below 85), Listening Comprehension averaged 101 (SD = 15.27, 2 scored below 85), Broad Reading averaged 105 (SD = 11.9, all scored over 85), Broad Math averaged 104 (SD = 18.4, one scored below 85), Spelling averaged 112 (SD = 18.83, all scored over 85) and general Academic Knowledge averaged 98 (SD = 18.1, 2 scored below 85). Three children had aides because of inattentiveness and 3 received speech therapy, although all spoke fluently.

The 12 moderate learners showed a significant improvement in Performance IQ, $F(1, 18) = 11.81, p < .01$, as shown in Table 3, but the post-treatment mean score (63.67) was over two SDs below the average range. Although these children did not "catch up" to peers, they did show increases in developmental age equivalents. Cognitive skills increased from 16 to 44 months; adaptive skills, from 16 to 37 months; language skills, from less than 12 months to 27 months; and social skills, from 10 to 31 months. At the end of the study, these children were continuing to gain skills at a rate of 3.4 to 4.3 months per year in expressive language and social skills, respectively. All but 2 of them acquired speech, allowing them to communicate basic needs while also reducing frustration. Two thirds learned to read simple stories (e.g., first grade level words with two sentences per page). Most acquired the ability to relate to others and to play with peers. Four of the children were in regular classes with an aide, but all had a modified curriculum. Six children had a mixture of some time in regular class and some time in special education, and 2 were in full-time special education classes (one for students with cognitive disabilities and the other for those with emotional disturbances).

Assessment of Residual Symptoms in Rapidly Learning Children

Parents completed the Personality Inventory for Children for all 23 children. As shown in Table 4, rapidly learning children as a group scored in the average range on all factor scales, although 2 scored in the clinically significant range on Factor III (they tended to worry). Moderate learners were rated as having more tantrums (Factor I), more difficulty interacting with others (Factor II), and more learning problems (Factor IV).

Parents and teachers completed the Child Behavior Checklist for all 23 children. Results were analyzed using 2 × 2 ANOVAS (Rapid Learners vs. Moderate Learners × Parent vs. Teacher as repeated measures). As shown in Tables 4 and 5, rapid learners as a group scored in the nonclinically significant range on all scales, although they did score less normally than did moderate learners on Scale 3 (they worried more). Moderate learners were rated as less interactive (Scale 1), more preoccupied (Scale 5), less attentive (Scale 6), and more easily frustrated (Scale 8).

The differences in Child Behavior Checklist ratings between parents and teachers were small, reaching significance on two scales (1 and 8). However, these results largely reflected differences within the average range. Parents did not rate any children in the clinically significant range on either scale, and teachers rated only 2 children on

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Table 4. Mean Scores of Rapid and Moderate Learners on Posttreatment Only Tests of Residual Symptoms: Parent Ratings

	PIC[a] factor				Child Behavior Checklist[b] scale					
Learner	I	II	III	IV	1	3	4	5	6	8
Rapid (R)										
(*n* = 11)	53.45	62.36	55.27	64.18	59.09	55.40	57.82	65.64	62.64	52.91
(*SD*)	(9.38)	(8.34)	(13.90)	(13.65)	(6.26)	(6.14)	(7.49)	(9.87)	(9.12)	(4.98)
Moderate (M)										
(*n* = 12)	66.83	79.25	49.73	97.55	58.83	51.75	61.92	70.42	67.67	53.33
(*SD*)	(12.93)	(9.42)	(8.77)	(18.77)	(6.27)	(3.06)	(7.35)	(7.92)	(8.17)	(4.62)
R vs. M[c]	3.43**	4.86**	1.06	5.13**	0.01	1.80*	1.61	1.64	1.73*	0.08

[a]Personality Inventory for Children and Child Behavior Checklist scores ≥70 are clinically significant and scores ≥67 are borderline. Scores below those levels are not reliably different from "normal" (Achenbach, 1991b; Lacher, 1982). Factor I = Undisciplined/Poor Self Control, II = Social Incompetence, III = Internalizing/Somatic Symptoms, IV = Cognitive Development. [b]Scale I = Withdrawn, 3 = Anxious/Depressed, 4 = Social Problems, 5 = Thought Problems, 6 = Attention Problems, 8 = Aggression. [c]*t* tests are one-tailed, with a *df* of 19.
*$p < .05$. **$p < .01$.

Scale 1 (both moderate learners) and 3 on Scale 8 in the significant range (1 rapid and 2 moderate learners).

Whereas checklists such as the Personality Inventory for Children and the Child Behavior Checklist can be used to assess the presence of problems, the Classroom Edition of the Vineland is used to assess the presence of skills (e.g., "initiates conversation," "responds to hints or indirect cues in conversation"). Teachers completed this measure for all 23 children except the 2 who were among the highest functioning. As shown in Table 5, teacher ratings of Communication and Socialization for the remaining 9 rapid learners were in the average range. Moderate learners were rated as having deficiencies in both areas.

We examined changes in behavior related to diagnosis by comparing the Autism Diagnostic Interview-Revised administered prior to and after 3 years of treatment using 2 × 2 ANOVAS (Rapid Learners vs. Moderate Learners × Pretreatment vs. Posttreatment as repeated measures). As shown in Table 3, rapid learners as a group showed significant improvements on all three Autism Diagnostic Interview scales: Communication, $F(1, 21) = 52.04$, $p < .01$, Reciprocal Interaction, $F(1, 21) = 46.89$, $p < .01$, and stereotyped behaviors, $F(1, 21) = 16.46$, $p < .01$. Eight of 11 rapid learners scored in the nonautistic range in all three areas, and many had their diagnoses removed by the referring child psychiatrists. Of the rapid learners who had remaining problems, 1 still had some lan-

Table 5. Mean Scores of Rapid and Moderate Learners on Posttreatment Only Tests of Residual Symptoms: Teacher Ratings

	Vineland		Child Behavior Checklist scales[a]					
Learners	Comm.	Social	1	3	4	5	6	8
Rapid (R)	94.44	89.89	57.00	55.90	56.73	65.55	59.36	57.60
n = 11 (*SD*)	(13.97)	(18.36)	(7.34)	(6.93)	(6.30)	(11.37)	(12.33)	(6.11)
Moderate (M)	58.58	61.58	64.33	55.17	58.00	72.58	63.25	61.25
n = 12 (*SD*)	(7.90)	(6.02)	(6.03)	(6.56)	(5.57)	(7.06)	(7.94)	(7.45)
R vs. M[b]	6.84**	4.60**	2.93**	0.36	0.37	2.41*	1.33	2.86**

[a]Child Behavior Checklist scores ≥67 are borderline. Scores below these levels are not reliably different from "normal" (Achenbach, 1991b; Lacher, 1982). *t* tests are one-tailed. Scale 1 = Withdrawn, 3 = Anxious/Depressed, 4 = Social Problems, 5 = Thought Problems, 6 = Attention Problems, 8 = Aggression. [b]*t* tests are one-tailed, with a *df* of 19.
*$p < .05$. **$p < .01$.

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Table 6. Combined Parents' and Teachers' Ratings of Residual Symptoms of Rapid Learners

Child[a]	Social Skills VABS[b] Com, Soc	Isolates PIC[c] 1&2	Not liked CBC 1,4	Anxious CBC 3, PIC 3	Inattntn CBC 5,6	Moody CBC 8
CD						
1	104	50	50	47.7	50	50
2	115.5	50	50	48.3	50	50
3	115	51	50	51.3	55	50
4	101.3	57.5	68.3	52	79.5	65.5
5	95.5	51	56.3	60	62.5	53
PD						
1	107.5	59	55.3	68.3	54	54.5
2	79.5	54.5	57.3	46.3	67.5	54.5
3	77.5	67.5	60	51.3	64.8	61.5
4	77.5	69	63.8	63.7	70.8	58
5	86.5	67	61.3	67.0	67.8	51
6	99.5	64	62.3	51.3	65	55.5

[a]CD = clinic directed, PD = parent directed. [b]Vineland Adaptive behavior Scales (VABS) scores below 85 are moderately low and 116–130, moderately high. [c]Personality Inventory for Children (PIC) and Child Behavior Checklist (CBC) scores ≥70 are clinically significant; and ≥67, borderline; below these levels, are not reliably different from "normal" (Achenbach, 1991b; Lacher, 1982).

guage delays, 1 was rigid in play, and 1 was elevated in all three areas. The latter child had received treatment from a non-UCLA affiliated provider after the first year.

Combined measures of residual symptoms are shown in Table 6. Eight of 11 rapid learners showed increases in social skills to the adequate range (above 85), although 3 had some borderline problems, including 1 who had significant problems with Preoccupation/Inattention. The remaining 3 rapid learners showed moderately low social skills (below 85), and 2 had problems with Preoccupation/Inattention, one of which was clinically significant. All 3 of these latter children were in the parent-directed group and took longer than 2 years to achieve IQ in the average range. These results are similar to those described in UCLA reports, where 3 of 8 best outcome children scored below 85 on Vineland Communication, 3 were elevated on the Vineland Maladaptive Behavior scale, and 5 had at least one significant elevation on the Personality Inventory for Children. In interpreting these results, McEachin et al. (1993) noted that 3 of their nonclinical children also had significant Personality Inventory elevations.

Predicting Outcome

Early learning measure. Performance of rapid and moderate learners on each of the four subscales of the Early Learning Measure is shown in Figure 3. As can be seen, the difference in their rates of learning was evident early in treatment. Thirteen of 23 children passed the Early Learning Measure (90% correct on verbal imitation). All 11 who later achieved scores in the average range passed by 16 weeks of treatment (9 children) or before reaching 42 months of age (2 children).

Pretreatment variables. Table 7 shows correlations between pretreatment variables and three outcome variables following 3 years of treatment: (a) Full Scale IQ; (b) Language, defined as the mean of three measures–Vineland Communication scores from parents and teachers representing language usage at home and school and language scores from the Reynell or Clinical Evaluation of Language Fundamentals; (c) Social Skills, defined as the mean of three measures–Vineland Socialization scores from parents and teachers and Factor II (Social Incompetence) from the Personality Inventory for Children.

The ability to imitate on the Early Learning Measure was highly correlated with outcome in all three areas. Seven children were able to imitate 3 of 20 sounds prior to treatment (mean total sounds imitated during the first three Early Learning Measures was 2.43, range = 0 to 15, SD = 4.04), and all went on to achieve IQs in the average range.

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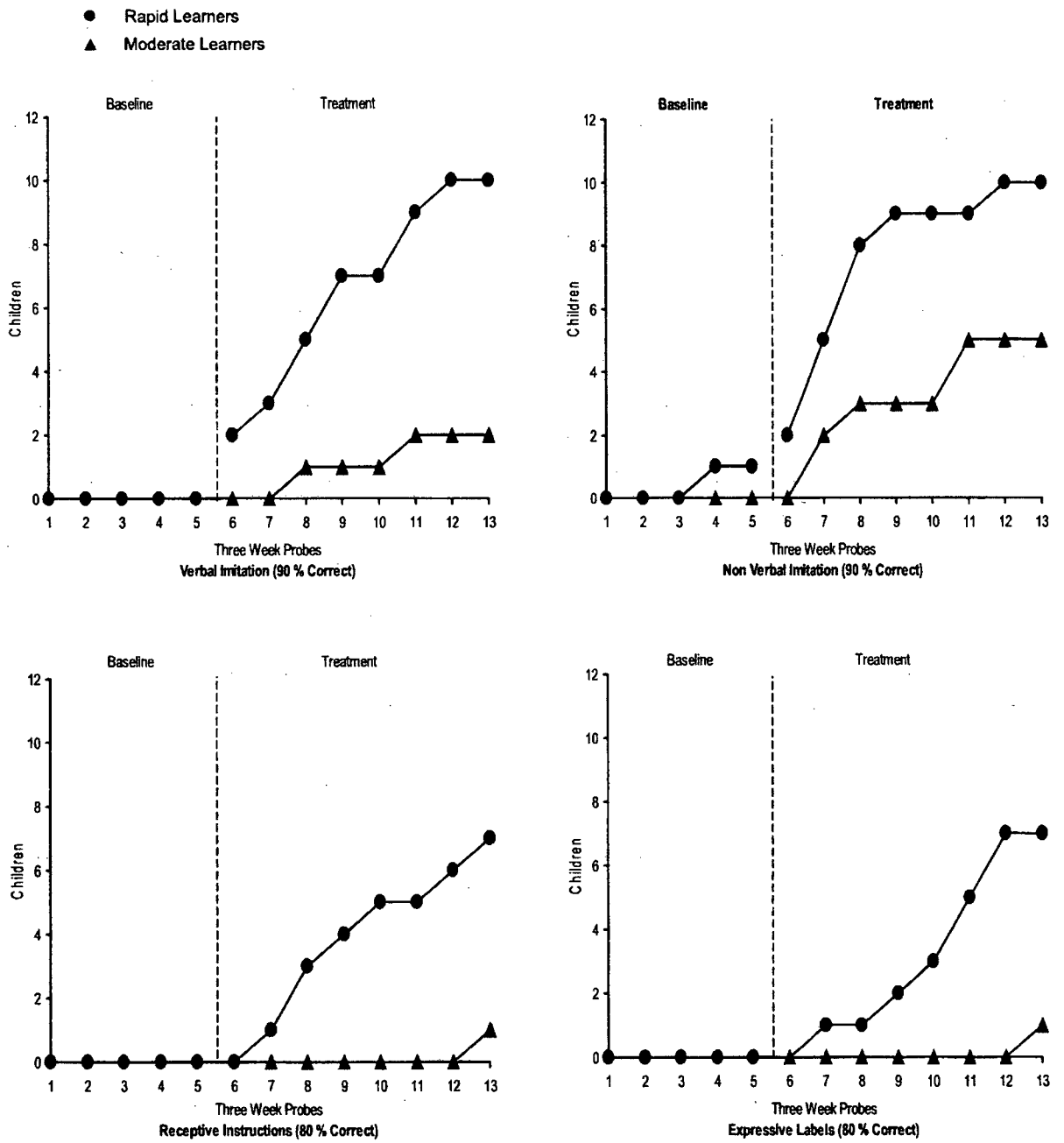

Figure 3. Performance of rapid (RL) and moderate (ML) learners on the Early Learning Measure.

We used linear regression using the best subset approach (Hosmer et al., 1989) to select the most powerful predictors for each outcome area. Based on previous research, potential predictor variables included IQ, imitation, language, social relatedness, and severity of symptoms. Posttreatment IQ was best predicted by the subset of variables including pretreatment Early Learning Measure (receptive language, nonverbal imitation, and verbal imitation), pretreatment IQ, Autism Diagnostic Interview Impairment in Social Interaction (low social interest, unresponsive to others' approaches, lack of shared attention), and Autism Diagnostic Interview Communication scores. This set of variables yielded a correlation of .83 with posttreatment IQ, which is a strong relationship.

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Table 7. Correlations Between Pretreatment and Posttreatment Measures

	Follow-up				
	One year		Three year		
Pretreatment measure[a]	IQ	IQ change	IQ	Language	Social
Reynell					
Expressive	.46*	.37	.35	.41	.45*
Comprehension	.30	.19	.24	.27	.31
ELM					
Nonverbal Imitation	.59**	.41	.71**	.69**	.81**
Exp. Labeling	.48*	.54*	.46*	.56**	.65**
Rec. Instructions	.47*	.27	.56**	.56**	.67**
Verbal Imitation	.62**	.59**	.65**	.69**	.80**
VABS					
Communication	.49*	.35	.33	.44*	.41
DLS[b]	.57*	.40	.57**	.60**	.63**
Motor	.36	.16	.17	.22	.27
Socialization	.44*	.31	.41*	.43*	.47*
Composite	.56*	.32	.37	.43*	.46*
Merrill-Palmer IQ	.20	−.01	.08	.06	−.07
Bayley Ratio IQ	.51*	−.01	.45*	.34	.28
ADI-R					
Communication	−.49*	−.35	−.59**	−.52*	−.57**
Socialization	−.22	−.18	−.63**	−.50*	−.52*
Ritualistic	−.12	−.17	−.12	−.10	−.10
First year IQ change	.86**	—	.87**	.92**	.82**
IQ at one year	—	.86**	.75**	.84**	.75**

[a]Reynell = Reynell Developmental Language Scales, ELM = Early Learning Measure, VABS = Vineland Adaptive Behavior Scales, ADI-R = Autism Diagnostic Interview-Revised. [b]Daily Living Skills.
*$p < .05$. **$p < .01$.

The amount of variation in posttreatment IQ explained by this subset of pretreatment variables was 70%.

Social skill acquisition was also predicted by the pretreatment ability to imitate. The subset of variables, including pretreatment Early Learning Measure scores (receptive language, nonverbal imitation, and verbal imitation) and Autism Diagnostic Interview Communication yielded a correlation of .90 with posttreatment social skill scores, a strong relationship. The amount of variance in posttreatment social skill scores explained by this subset of pretreatment variables was 82%.

Finally, language skill acquisition was also predicted by the pretreatment ability to imitate. The subset of variables including pretreatment Early Learning Measure scores (receptive language, nonverbal imitation, and verbal imitation), Vineland Daily Living Skills, and Autism Diagnostic Interview Communication yielded a correlation of .87 with posttreatment language scores, a strong relationship. The amount of variance in posttreatment language scores explained by this subset of pretreatment variables was 75%.

Parents of 6 children (26%) reported acquisition of 5 to 25 words, all of which were later lost between 15 and 26 months of age. Language regression in other studies has varied between 20% and 50% (Howlin, 1998), with a mean near 30% (Shinnar et al., 2001) and median age of 18 months (Tuchman & Rapin, 1997). Shinnar et al. reported that among those children who regained some language, only 8% achieved typical language. In the present study, loss of speech was not

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related to outcome. Three rapid learners and 3 moderate learners had a clear loss, and 6 rapid learners and 2 moderate learners had no loss (Rapid Learners vs. Moderate Learners × Pre- vs. Post-treatment, χ^2 (1, N =14) = .16, ns. Three of 6 children with clear regression (50%) achieved typical language. However, having no speech at the start of treatment (age 36 months), whether from earlier loss (and not having recovered any) or never having developed speech, was associated with slower learning.

We used logistic regression to develop models to predict the probability of achieving 3-year outcome scores in the average range based on pretreatment measures. The most accurate model for the current set of data combined pretreatment Verbal Imitation from the Early Learning Measure and pretreatment Autism Diagnostic Interview Communication as follows: $p/(1\text{-}p) = e^y$, where e = (approximately) 2.718284 and y = [1.76 (total verbal imitation items correct out of 20 trials from standard set administered three times, 3 weeks apart) −2.64 (Autism Diagnostic Interview-Communication score) + 32.57]. Using a score above 0.5 to classify children as potentially "best outcome," this model correctly predicted 10 of 11 such children (sensitivity = 10/11 = .91), with one false positive and one false negative (specificity = 21/23 = .91). Predictive power was .91.

Hours of treatment. Table 8 shows the distribution of direct intervention hours for rapid learners during treatment. Most children received predominantly 1:1 intervention during the first year, and then gradually spent more time in school. Once children were able to use language, treatment was focused increasingly on building the social skills necessary to function in school and to interact with peers.

The number of weekly hours of treatment seemed less related to outcome than did pretreatment variables. Rapid learners averaged 34 hours per week during the first year (range = 25 to 40) and 31 during the second year (range = 20 to 39). Those who learned at a more moderate rate had identical averages, although they had less peer play due to limited play and language skills.

The hours shown in Table 8 do not include time spent by parents generalizing gains made in therapy, which they found quite difficult to estimate. In an effort to assess the impact of parental involvement, senior therapists rated parents on the percentage of involvement in their child's treatment during the first year. Although the correlation with outcome, r = .32, was not significant, the real impact of parental involvement may not be seen until formal treatment has ceased, when parents who were more involved all along and, therefore, acquired more skills, may be better prepared to help their child deal with new challenges.

Table 8. Average Allocation of Treatment Hours Over Time for Rapid Learners

	Years of treatment								
Staffing	.5	1	1.5	2	2.5	3	3.5	4	4.5
n	11	11	10	8	7	7	7	6	6
1:1	33	29	24	22	20	18	15	12	10
	(15–40)	(16–35)	(10–33)	(15–31)	(10–27)	(5–28)	(0–25)	(4–25)	(0–15)
School	5	6	8	8	12	13	18	28	33
	(0–12)	(0–12)	(0–25)	(0–16)	(8–20)	(8–25)	(8–30)	(15–35)	(25–35)
School shadow	1	1	4	5	8	11	7	5	5
	(0–5)	(0–5)	(0–15)	(0–15)	(3–15)	(6–18)	(0–18)	(0–12)	(2–15)
Peer shadow	0	3	3	6	5	4	4	3	2
	(0)	(0–5)	(0–5)	(2–9)	(0–9)	(0–8)	(2–8)	(0–6)	(0–4)
Total	34	33	31	33	33	33	26	21	17
	(25–40)	(26–40)	(20–37)	(20–39)	(25–37)	(20–40)	(7–40)	(6–31)	(12–20)

Note. Ranges are in parentheses. Total hours include school hours only when a shadow was present. Hours are for children still in treatment at each point in time. One child transferred to another provider after 1 year. Children began "graduating" from treatment after 2 years. Children who had difficulty learning complex material maintained full hours longer, but treatment focused more on 1:1 hours to teach skills and less on peer interaction due to lower social interest and language delays.

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Among rapid learners, the number of hours of structured home-based peer play was significantly related to teachers' ratings of social skills at 4 years. Although most children began peer play by 48 months of age, those who were subsequently rated by teachers as being within the average range (Vineland Socialization score of at least 90, and no Child Behavior Checklist scores over 65 on Scale 1 (Withdrawn) or Scale 4 (Social Problems), had several things in common. By age 54 months, they were all receiving at least 6 (mean = 8) hours of supervised peer play per week with at least two unfamiliar peers (i.e., not siblings or cousins), and this continued for at least 6 months (M = 13), p = .008 (Fisher Exact Test).

Supplemental treatments. Of the 23 children participating, 22 received some type of supplemental treatment prior to or during the first year of treatment (19 of 23 children). These services consisted of special education (21), preschool (2), and private therapies beyond what was offered in school: speech (5), sensory integration (7), auditory integration training (2), music therapy (1), and horseback riding (1). Hours per week of supplemental treatment ranged from 0 to 14 (average = 6) prior to and 0 to 15 (average = 7) hours during the first year of treatment. Between the first and third year of treatment, biomedical management became more popular, and more parents tried them. Nine children were on Gluten-Casein free diets (for 1 month to 21 months), 10 received mega-vitamins and/or dimethylglycine–DMG (for 1 month to 3 years), 4 received Secretin (1 to 4 doses), 4 were given Nystatin (for 1 month to 12 months), and 1 received 20 doses of Intravenous Immune Globulin. However, the correlation between hours of supplemental treatment and outcome (−.335 with IQ, −.384 with language, and −.334 with socialization) and that between the use of biomedical treatments and outcome (−.050 with IQ, −.108 with language, and −.141 with socialization) were low and not significant, supporting the conclusion that the increases in skills observed in this study were not the result of these interventions.

Discussion

In the present study we demonstrated that the UCLA early intensive behavioral treatment program could be implemented in a clinical setting outside a university with a similar sample and that the earlier findings by the UCLA group regarding favorable outcome (Lovaas, 1987; McEachin et al., 1993) could in large part be replicated without aversives. Following 2 to 4 years of treatment, 11 of 23 children (48%) achieved Full Scale IQs in the average range, with IQ increases from 55 to 104, as well as increases in language and adaptive areas comparable to data from the UCLA project. At age 7, these rapid learners were succeeding in regular first or second grade classes, demonstrated generally average academic abilities, spoke fluently, and had peers with whom they played regularly.

Parent-directed children, who received 6 hours per month of supervision (usually 3 hours every other week, which is much more than "parent-managed" or "workshop" supervision), did about as well as clinic-directed children, although they received much less supervision. This was unexpected, and it may have been due in part to parent-directed parents taking on the senior therapist role, filling cancelled shifts themselves, actively targeting generalization, and pursuing teachers and neighbors to find peers for daily play dates with their children. Although many parent-directed parents initially made decisions regarding treatment that resulted in their children progressing slowly (e.g., using their treatment hours for ineffective interventions or pushing children to learn advanced skills before they were ready), resulting in frustration and occasionally "shutting down," many parents then sought input from treatment supervisors and rapidly learned to avoid making the same mistake twice, becoming quite skillful after a few months.

Several measures were used to assess residual symptoms of autism among rapid learners, and while generally not clinically significant, some were found, particularly among those children who achieved average IQ after several years of treatment. About one third of the rapid learners were seen as having mild delays in social skills. Seeming preoccupied was also a common problem for which 3 children were assigned classroom aides because they "needed reminders to stay on task." Lovaas (1987) did not mention that aides were assigned to any of his "best outcome" children, and it is possible that our children were not as "normal." However, McEachin et al. (1993) found that in spite of scoring in the clinically significant range in one or two areas, children were able to maintain their skills, scoring in the average range on standardized tests of cognitive, emotional, and social variables and to succeed in regular

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classes at follow-up 6 years after treatment was stopped.

The strongest pretreatment predictors of outcome were imitation, language, daily living skills, and socialization. Rapid acquisition of new material as measured by the Early Learning Measure, first year IQ, and change in IQ after 1 year were also strong predictors. These findings are consistent with previous research. A model with 91% accuracy was derived for predicting whether a child in the present sample would be a rapid or moderate learner. The usefulness of the model must await validation with other similar samples. We note that one of the two predictors in the model was pretreatment verbal imitation, which is not widespread among untreated 3-year-old children with autism. However, the model may not discriminate among children above some as yet undetermined age because they often acquire imitation by school age (Charman et al., 1997).

Because we used the Bayley to determine pretreatment IQ and Wechsler tests at follow-up, there was a possibility that the observed increases in IQ may have reflected the use of different tests instead of treatment effects. To examine this, we compared changes in scores over time from Bayley at Time 1 to Bayley at Time 2, with changes from Bayley at Time 1 to Wechsler test at Time 2. One rapid learner was tested using the Bayley at pretreatment and again after 1 year of treatment because he was still only 3 years old. His score increased from 44 to 97, similar to increases seen in rapid learners tested with the Bayley at pretreatment and the WPPSI-R at 1 year. Ten moderate learners were tested using the Bayley at pretreatment and again after 1 year of treatment, and with Wechsler tests thereafter. For these children, Bayley to Bayley IQs increased from 47.2 to 54.3. Bayley to Wechsler IQs increased from 53.7 to 54.6. Therefore, there did not seem to be an effect on IQs attributable to using different tests.

Another possible confound was that most pre- and posttesting of moderate learners was done by the second author, perhaps introducing bias. However, the correlation between scores obtained by the second author and unaffiliated community psychologists was high, and the finding of little improvement over time on standardized tests for children in this subgroup is consistent with previous findings. A related question is whether the positive findings among rapid learners were due to treatment or maturation. Arguing against the maturation hypothesis is the negligible improvement of children receiving community services found in several longitudinal studies (Eikeseth et al., 2002; Lord & Schopler, 1989; Lovaas, 1987; Sheinkopf & Siegel, 1998).

Although we matched on age and IQ and employed random assignment, this was not sufficient to ensure equal samples. Other pretreatment variables, such as imitation, correlated even more strongly with outcome and were not equal in the two groups. As a result, we were unable to interpret treatment effects among subgroups of rapid learners. Further, the small number of children in the study limited the power of statistical tests to detect differences, and the many tests on such a small sample increased the likelihood of spurious findings, thereby limiting the implications of results for the larger population of children with autism. However, because some treatment effects were so large and have been found in other studies (e.g., that a subset of the children do well), the current results can be seen as supporting an existing body of research.

We found two interesting correlations that deserve further study. First, ratings of parental involvement were weakly related to outcome, suggesting that more overt efforts to increase parents feeling capable of contributing to treatment planning may enhance treatment effects (Ramey et al., 1992). Second, acquisition of social skills was positively related to amount and duration of supervised peer play. Some parents were uncomfortable approaching other parents to set up play dates, and problems doing so may provide a partial explanation for the lower social skills scores of their children. Even so, amount and duration of supervised peer play are surely just a few of the variables that affect acquisition of social skills. Although we do have several powerful interventions, including incidental teaching, role playing, and video modeling, to teach a curriculum of social conversation, cooperative play, and understanding the nonverbal communication of others, building typical social skills remains a work in progress (McConnell, 2002).

Hours of treatment in this study came closer than any previous replication to the intensity of hours provided in the UCLA study (Lovaas, 1987), averaging 38 hours per week for 2 years in the clinic-directed group, and the results were also the most comparable. Forty-eight percent of the children showed dramatic increases in cognitive and social skills and were able to succeed in regular education classes. However, high hours and

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intensive supervision were not sufficient to make up for low levels of pretreatment skills. Consistent with previous studies, low IQ (below 44) and absence of language (no words at 36 months) predicted limited progress, whereas rate of learning, imitation. and social relatedness predicted favorable outcomes (Lord, 1995). Although starting at a disadvantage, children learning at a moderate rate were still acquiring new skills after 4 years. We intend to follow all of the children for several more years to determine their outcome in adolescence and adulthood.

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Errata

Several errors occurred in the article "Support Needs and Adaptive Behaviors," by Julia Harries, Roma Guscia, Neil Kirby, Ted Nettelbeck, and John Taplin (Vol. 110, No. 5, 393–404). On page 395, in last line under *Participants,* the *SD* should be 3.2 years not 3.2 months.

In Table 4 on page 400, there should not be a superscript *a* next to the ICAP heading. Also, in this table the coefficient for SIS Health and Safety subscale in Factor 3 should be −.16 not .16.

In the reference list, there should be reference to two versions of the Supports Intensity Scale (one unpublished version and one published version) as follows:

Thompson, J. R., Bryant, B., Campbell, E. M., Craig, E. M., Hughes, C., Rotholz, D. A., Schalock, R. L., Silverman, W., Tassé, M. J., & Wehmeyer, M. (2002). *Supports Intensity Scale: Standardization and users manual.* Unpublished assessment scale, American Association on Mental Retardation.

Thompson, J. R., Bryant, B., Campbell, E. M., Craig, E. M., Hughes, C., Rotholz, D. A., Schalock, R. L., Silverman, W., Tassé, M. J., & Wehmeyer, M. (2004). *Supports Intensity Scale: Users manual.* Washington, DC: American Association on Mental Retardation.

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Behavioral Treatment and Normal Educational and Intellectual Functioning in Young Autistic Children

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Autism is a serious psychological disorder with onset in early childhood. Autistic children show minimal emotional attachment, absent or abnormal speech, retarded IQ, ritualistic behaviors, aggression, and self-injury. The prognosis is very poor, and medical therapies have not proven effective. This article reports the results of behavior modification treatment for two groups of similarly constituted, young autistic children. Follow-up data from an intensive, long-term experimental treatment group (n = 19) showed that 47% achieved normal intellectual and educational functioning, with normal-range IQ scores and successful first grade performance in public schools. Another 40% were mildly retarded and assigned to special classes for the language delayed, and only 10% were profoundly retarded and assigned to classes for the autistic/retarded. In contrast, only 2% of the control-group children (n = 40) achieved normal educational and intellectual functioning; 45% were mildly retarded and placed in language-delayed classes, and 53% were severely retarded and placed in autistic/retarded classes.

Kanner (1943) defined autistic children as children who exhibit (a) serious failure to develop relationships with other people before 30 months of age, (b) problems in development of normal language, (c) ritualistic and obsessional behaviors ("insistence on sameness"), and (d) potential for normal intelligence. A more complete behavioral definition has been provided elsewhere (Lovaas, Koegel, Simmons, & Long, 1973). The etiology of autism is not known, and the outcome is very poor. In a follow-up study on young autistic children, Rutter (1970) reported that only 1.5% of his group (n = 63) had achieved normal functioning. About 35% showed fair or good adjustment, usually required some degree of supervision, experienced some difficulties with people, had no personal friends, and showed minor oddities of behavior. The majority (more than 60%) remained severely handicapped and were living in hospitals for mentally retarded or psychotic individuals or in other protective settings. Initial IQ scores appeared stable over time. Other studies (Brown, 1969; DeMyer et al., 1973; Eisenberg, 1956; Freeman, Ritvo, Needleman, & Yokota, 1985; Havelkova, 1968) report similar data. Higher scores on IQ tests, communicative speech, and appropriate play are considered to be prognostic of better outcome (Lotter, 1967).

Medically and psychodynamically oriented therapies have not proven effective in altering outcome (DeMyer, Hingtgen, & Jackson, 1981). No abnormal environmental etiology has been identified within the children's families (Lotter, 1967). At present, the most promising treatment for autistic persons is behavior modification as derived from modern learning theory (DeMyer et al., 1981). Empirical results from behavioral intervention with autistic children have been both positive and negative. On the positive side, behavioral treatment can build complex behaviors, such as language, and can help to suppress pathological behaviors, such as aggression and self-stimulatory behavior. Clients vary widely in the amount of gains obtained but show treatment gains in proportion to the time devoted to treatment. On the negative side, treatment gains have been specific to the particular environment in which the client was treated, substantial relapse has been observed at follow-up, and no client has been reported as recovered (Lovaas et al., 1973).

The present article reports a behavioral-intervention project (begun in 1970) that sought to maximize behavioral treatment gains by treating autistic children during most of their waking hours for many years. Treatment included all significant persons in all significant environments. Furthermore, the project focused on very young autistic children (below the age of 4 years) because it was assumed that younger children would be less likely to discriminate between environments and therefore more likely to generalize and to maintain their treatment gains. Finally, it was assumed that it would be easier to successfully mainstream a very young autistic child into preschool than it would be to mainstream an older autistic child into primary school.

It may be helpful to hypothesize an outcome of the present study from a developmental or learning point of view. One may assume that normal children learn from their everyday environ-

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ments most of their waking hours. Autistic children, conversely, do not learn from similar environments. We hypothesized that construction of a special, intense, and comprehensive learning environment for very young autistic children would allow some of them to catch up with their normal peers by first grade.

Method

Subjects

Subjects were enrolled for treatment if they met three criteria: (a) independent diagnosis of autism from a medical doctor or a licensed PhD psychologist, (b) chronological age (CA) less than 40 months if mute and less than 46 months if echolalic, and (c) prorated mental age (PMA) of 11 months or more at a CA of 30 months. The last criterion excluded 15% of the referrals.

The clinical diagnosis of autism emphasized emotional detachment, extreme interpersonal isolation, little if any toy or peer play, language disturbance (mutism or echolalia), excessive rituals, and onset in infancy. The diagnosis was based on a structured psychiatric interview with parents, on observations of the child's free-play behaviors, on psychological testing of intelligence, and on access to pediatric examinations. Over the 15 years of the project, the exact wording of the diagnosis changed slightly in compliance with changes in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM–III; American Psychiatric Association, 1980). During the last years, the diagnosis was made in compliance with DSM–III criteria (p. 87). In almost all cases, the diagnosis of autism had been made prior to family contact with the project. Except for one case each in the experimental group and Control Group 1, all cases were diagnosed by staff of the Department of Child Psychiatry, University of California, Los Angeles (UCLA) School of Medicine. Members of that staff have contributed to the writing of the DSM–III and to the diagnosis of autism adopted by the National Society for Children and Adults with Autism. If the diagnosis of autism was not made, the case was referred elsewhere. In other words, the project did not select its cases. More than 90% of the subjects received two or more independent diagnoses, and agreement on the diagnosis of autism was 100%. Similarly high agreement was not reached for subjects who scored within the profoundly retarded range on intellectual functioning (PMA < 11 months); these subjects were excluded from the study.

Treatment Conditions

Subjects were assigned to one of two groups: an intensive-treatment experimental group (n = 19) that received more than 40 hours of one-to-one treatment per week, or the minimal-treatment Control Group 1 (n = 19) that received 10 hours or less of one-to-one treatment per week. Control Group 1 was used to gain further information about the rate of spontaneous improvement in very young autistic children, especially those selected by the same agency that provided the diagnostic work-up for the intensive-treatment experimental group. Both treatment groups received treatment for 2 or more years. Strict random assignment (e.g., based on a coin flip) to these groups could not be used due to parent protest and ethical considerations. Instead, subjects were assigned to the experimental group unless there was an insufficient number of staff members available to render treatment (an assessment made prior to contact with the family). Two subjects were assigned to Control Group 1 because they lived further away from UCLA than a 1-hr drive, which made sufficient staffing unavailable to those clients. Because fluctuations in staff availability were not associated in any way with client characteristics, it was assumed that this assignment would produce unbiased groups. A large number of pretreatment measures were collected to test this assumption. Subjects did not change group assignment. Except for two families who left the experimental group within the first 6 months (this group began with 21 subjects), all families stayed with their groups from beginning to end.

Assessments

Pretreatment mental age (MA) scores were based on the following scales (in order of the frequency of their use): the Bayley Scales of Infant Development (Bayley, 1955), the Cattell Infant Intelligence Scale (Cattell, 1960), the Stanford-Binet Intelligence Scale (Thorndike, 1972), and the Gesell Infant Development Scale (Gesell, 1949). The first three scales were administered to 90% of the subjects, and relative usage of these scales was similar in each group. Testing was carried out by graduate students in psychology who worked under the supervision of clinical psychologists at UCLA or licensed PhD psychologists at other agencies. The examiner chose the test that would best accommodate each subject's developmental level, and this decision was reached independently of the project staff. Five subjects were judged to be untestable (3 in the experimental group and 2 in Control Group 1). Instead, the Vineland Social Maturity Scale (Doll, 1953) was used to estimate their MAs (with the mother as informant). To adjust for variations in MA scores as a function of the subject's CA at the time of test administration, PMA scores were calculated for a CA at 30 months (MA/CA × 30).

Behavioral observations were based on videotaped recordings of the subject's free-play behavior in a playroom equipped with several simple early-childhood toys. These videotaped recordings were subsequently scored for amount of (a) *self-stimulatory behaviors*, defined as prolonged ritualistic, repetitive, and stereotyped behavior such as body-rocking, prolonged gazing at lights, excessive hand-flapping, twirling the body as a top, spinning or lining of objects, and licking or smelling of objects or wall surfaces; (b) *appropriate play behaviors*, defined as those limiting the use of toys in the playroom to their intended purposes, such as pushing the truck on the floor, pushing buttons on the toy cash register, putting a record on the record player, and banging with the toy hammer; and (c) *recognizable words*, defined to include any recognizable word, independent of whether the subject used it in a meaningful context or for communicative purposes. One observer who was naive about subjects' group placement scored all tapes after being trained to agree with two experienced observers (using different training tapes from similar subjects). Interobserver reliability was scored on 20% of the tapes (randomly selected) and was computed for each category of behavior for each subject by dividing the sum of observer agreements by the sum of agreements and disagreements. These scores were then summed and averaged across subjects. The mean agreement (based both on occurrences and nonoccurrences) was 91% for self-stimulatory behavior, 85% for appropriate play behavior, and 100% for recognizable words. A more detailed description of these behavioral recordings has been provided elsewhere (Lovaas et al., 1973).

A 1-hr parent interview about the subjects' earlier history provided some diagnostic and descriptive information. Subjects received a score of 1 for each of the following variables parents reported: no recognizable words; no toy play (failed to use toys for their intended function); lack of emotional attachment (failed to respond to parents' affection); apparent sensory deficit (parents had suspected their child to be blind or deaf because the child exhibited no or minimal eye contact and showed an unusually high pain threshold); no peer play (subject did not show interactive play with peers); self-stimulatory behavior; tantrums (aggression toward family members or self); and no toilet training. These 8 measures from parents' intake interviews were summed to provide a sum pathology score. The intake interview also provided information about abnormal speech (0 = normal and meaningful language, however limited; 1 = echolalic language used meaningfully [e.g., to express needs]; 2 = echolalia; and 3 = mute); age of walking; number of siblings in the family; socioeconomic status of the father; sex; and neurological examinations (including EEGs and CAT scans) that resulted in findings of pathology. Finally, CA at first diagnosis and at the beginning of the

present treatment were recorded. This yielded a total of 20 pretreatment measures, 8 of which were collapsed into 1 measure (sum pathology).

A brief clinical description of the experimental group at intake follows (identical to that for Control Group 1): Only 2 of the 19 subjects obtained scores within the normal range of intellectual functioning; 7 scored in the moderately retarded range, and 10 scored in the severely retarded range. No subject evidenced pretend or imaginary play, only 2 evidenced *complex* (several different or heterogeneous behaviors that together formed one activity) play, and the remaining subjects showed *simple* (the same elementary but appropriate response made repeatedly) play. One subject showed minimal appropriate speech, 7 were echolalic, and 11 were mute. According to the literature that describes the developmental delays of autistic children in general, the autistic subjects in the present study constituted an average (or below average) sample of such children.

Posttreatment measures were recorded as follows: Between the ages of 6 and 7 years (when a subject would ordinarily have completed first grade), information about the subjects' first-grade placement was sought and validated; about the same time, an IQ score was obtained. Testing was carried out by examiners who were naive about the subjects' group placement. Different scales were administered to accommodate different developmental levels. For example, a subject with a regular educational placement received a Wechsler Intelligence Scale for Children–Revised (WISC–R; Wechsler, 1974) or a Stanford-Binet Intelligence Scale (Thorndike, 1972), whereas a subject in an autistic/retarded class received a nonverbal test like the Merrill-Palmer Pre-School Performance Test (Stutsman, 1948). In all instances of subjects having achieved a normal IQ score, the testing was eventually replicated by other examiners. The scales (in order of the frequency of usage) included the WISC–R (Wechsler, 1974), the Stanford-Binet (Thorndike, 1972), the Peabody Picture Vocabulary Test (Dunn, 1981), the Wechsler Pre-School Scale (Wechsler, 1967), the Bayley Scales of Infant Development (Bayley, 1955), the Cattell Infant Intelligence Scale (Cattell, 1960), and the Leiter International Performance Scale (Leiter, 1959). Subjects received a score of 3 for *normal functioning* if they received a score on the WISC–R or Stanford-Binet in the normal range, completed first grade in a normal class in a school for normal children, and were advanced to the second grade by the teacher. Subjects received a score of 2 if they were placed in first-grade in a smaller *aphasia* (language delayed, language handicapped, or learning disabled) class. Placement in the aphasia class implied a higher level of functioning than placement in classes for the autistic/retarded, but the diagnosis of autism was almost always retained. A score of 1 was given if the first-grade placement was in a class for the autistic/retarded and if the child's IQ score fell within the severely retarded range.

Treatment Procedure

Each subject in the experimental group was assigned several well trained student therapists who worked (part-time) with the subject in the subject's home, school, and community for an average of 40 hr per week for 2 or more years. The parents worked as part of the treatment team throughout the intervention; they were extensively trained in the treatment procedures so that treatment could take place for almost all of the subjects' waking hours, 365 days a year. A detailed presentation of the treatment procedure has been presented in a teaching manual (Lovaas et al., 1980). The conceptual basis of the treatment was reinforcement (operant) theory; treatment relied heavily on discrimination-learning data and methods. Various behavioral deficiencies were targeted, and separate programs were designed to accelerate development for each behavior. High rates of aggressive and self-stimulatory behaviors were reduced by being ignored; by the use of time-out; by the shaping of alternate, more socially acceptable forms of behavior; and (as a last resort) by the delivery of a loud "no" or a slap on the thigh contingent upon the presence of the undesirable behavior. Contingent physical aversives were not used in the control group because inadequate staffing in that group did not allow for adequate teaching of alternate, socially appropriate behaviors.

During the first year, treatment goals consisted of reducing self-stimulatory and aggressive behaviors, building compliance to elementary verbal requests, teaching imitation, establishing the beginnings of appropriate toy play, and promoting the extension of the treatment into the family. The second year of treatment emphasized teaching expressive and early abstract language and interactive play with peers. Treatment was also extended into the community to teach children to function within a preschool group. The third year emphasized the teaching of appropriate and varied expression of emotions; preacademic tasks like reading, writing, and arithmetic; and *observational learning* (learning by observing other children learn). Subjects were enrolled only in those preschools where the teacher helped to carry out the treatment program. Considerable effort was exercised to mainstream subjects in a normal (average and public) preschool placement and to avoid initial placement in special education classes with the detrimental effects of exposure to other autistic children. This occasionally entailed withholding the subject's diagnosis of autism. If the child became known as autistic (or as "a very difficult child") during the first year in preschool, the child was encouraged to enroll in another, unfamiliar school (to start fresh). After preschool, placement in public education classes was determined by school personnel. All children who successfully completed normal kindergarten successfully completed first grade and subsequent normal grades. Children who were observed to be experiencing educational and psychological problems received their school placement through Individualized Educational Plan (IEP) staffings (attended by educators and psychologists) in accordance with the Education For All Handicapped Children Act of 1975.

All subjects who went on to a normal first grade were reduced in treatment from the 40 hr per week characteristic of the first 2 years to 10 hr or less per week during kindergarten. After a subject had started first grade, the project maintained a minimal (at most) consultant relationship with some families. In two cases, this consultation and the subsequent correction of problem behaviors were judged to be essential in maintaining treatment gains. Subjects who did not recover in the experimental group received 40 hr or more per week of one-to-one treatment for more than 6 years (more than 14,000 hr of one-to-one treatment), with some improvement shown each year but with only 1 subject recovering.

Subjects in Control Group 1 received the same kind of treatment as those in the experimental group but with less intensity (less than 10 hr of one-to-one treatment per week) and without systematic physical aversives. In addition, these subjects received a variety of treatments from other sources in the community such as those provided by small special education classes.

Control Group 2 consisted of 21 subjects selected from a larger group ($N = 62$) of young autistic children studied by Freeman et al. (1985). These subjects came from the same agency that diagnosed 95% of our other subjects. Data from Control Group 2 helped to guard against the possibility that subjects who had been referred to us for treatment constituted a subgroup with particularly favorable or unfavorable outcomes. To provide a group of subjects similar to those in the experimental group and Control Group 1, subjects for Control Group 2 were selected if they were 42 months old or younger when first tested, had IQ scores above 40 at intake, and had follow-up testing at 6 years of age. These criteria resulted in the selection of 21 subjects. Subjects in Control Group 2 were treated like Control Group 1 subjects but were not treated by the Young Autism Project described here.

Results

Pretreatment Comparisons

Eight pretreatment variables from the experimental group and Control Group 1 (CA at first diagnosis, CA at onset of treat-

Table 1
Means and F Ratios From Comparisons Between Groups on Intake Variables

Group	Diagnosis CA	Treatment CA	PMA	Recognizable words	Toy play	Self-stimulation	Sum pathology	Abnormal speech
Experimental	32.0	34.6	18.8	.42	28.2	12.1	6.9	2.4
Control 1	35.3	40.9	17.1	.58	20.2	19.6	6.4	2.2
F[a]	1.58	4.02*	1.49	.92	2.76	3.37	.82	.36

Note. CA = chronological age; PMA = prorated mental age. Experimental group, $n = 19$; Control Group 1, $n = 19$.
[a] $df = 1; 36$.
* $p < .05$.

ment, PMA, sum pathology, abnormal speech, self-stimulatory behavior, appropriate toy play, and recognizable words) were subjected to a multivariate analysis of variance (MANOVA; Brecht & Woodward, 1984). The means and F ratios from this analysis are presented in Table 1. As can be seen, there were no significant differences between the groups except for CA at onset of our treatment ($p < .05$). Control subjects were 6 months older on the average than experimental subjects (mean CAs of 35 months vs. 41 months, respectively). These differences probably reflect the delay of control subjects in their initiation into the treatment project because of staff shortages; analysis will show that differential CAs are not significantly related to outcome. To ascertain whether another test would reveal a statistically significant difference between the groups on toy play, descriptions of the subjects' toy play (taken from the videotaped recordings) were typed on cards and rated for their developmental level by psychology students who were naive about the purpose of the ratings and subject group assignment. The ratings were reliable among students ($r = .79$, $p < .001$), and an F test showed no significant difference in developmental levels of toy play between the two groups.

The respective means from the experimental group and Control Group 1 on the eight variables from the parent interview were .89 and .74 for sensory deficit, .63 and .42 for adult rejection, .58 and .47 for no recognizable words, .53 and .63 for no toy play, 1.0 and 1.0 for no peer play, .95 and .89 for body self-stimulation, .89 and .79 for tantrums, and .68 and .63 for no toilet training. The experimental group and Control Group 1 were also similar in onset of walking (6 vs. 8 early walkers; 1 vs. 2 late walkers), number of siblings in the family (1.26 in each group), socioeconomic status of the father (Level 49 vs. Level 54 according to 1950 Bureau of the Census standards), boys to girls (16:3 vs. 11:8); and number of subjects referred for neurological examinations (10 vs. 15) who showed signs of damage (0 vs. 1). The numbers of favorable versus unfavorable prognostic signs (directions of differences) on the pretreatment variables divide themselves equally between the groups. In short, the two groups appear to have been comparable at intake.

Follow-Up Data

Subjects' PMA at intake, follow-up educational placement, and IQ scores were subjected to a MANOVA that contrasted the experimental group with Control Groups 1 and 2. At intake, there were no significant differences between the experimental group and the control groups. At follow-up, the experimental group was significantly higher than the control groups on educational placement ($p < .001$) and IQ ($p < .01$). The two control groups did not differ significantly at intake or at follow-up. In short, data from Control Group 2 replicate those from Control Group 1 and further validate the effectiveness of our experimental treatment program. Data are given in Table 2 that show the group means from pretreatment PMA and posttreatment educational placement and IQ scores. The table also shows the F ratios and significance levels of the three group comparisons.

In descriptive terms, the 19-subject experimental group shows 9 children (47%) who successfully passed through normal first grade in a public school and obtained an average or above average score on IQ tests ($M = 107$, range = 94–120). Eight subjects (42%) passed first grade in aphasia classes and obtained a mean IQ score within the mildly retarded range of intellectual functioning ($M = 70$, range = 56–95). Only two children (10%) were placed in classes for autistic/retarded children and scored in the profoundly retarded range (IQ < 30).

There were substantial increases in the subjects' levels of intellectual functioning after treatment. The experimental group subjects gained on the average of 30 IQ points over Control Group 1 subjects. Thus the number of subjects who scored within the normal range of intellectual functioning increased from 2 to 12, whereas the number of subjects within the moderate-to-severe range of intellectual retardation dropped from 10 to 3. As of 1986, the achievements of experimental group sub-

Table 2
Means and F Ratios for Measures at Pretreatment and Posttreatment

Group	Intake PMA	Follow-up EDP	Follow-up IQ
	Means		
Experimental	18.8	2.37	83.3
Control 1	17.1	1.42	52.2
Control 2	17.6	1.57	57.5
	F ratios[a]		
Experimental × Control 1	1.47	23.6**	14.4**
Experimental × Control 2	0.77	17.6**	10.4*
Control 1 × Control 2	0.14	0.63	0.45

Note. PMA = prorated mental age; EDP = educational placement. Experimental group, $n = 19$; Control Group 1, $n = 19$; Control Group 2, $n = 21$.
[a] $df = 1, 56$.
* $p < .01$. ** $p < .001$.

Table 3
Educational Placement and Mean and Range of IQ at Follow-Up

Group	Recovered	Aphasic	Autistic/Retarded
Experimental			
N	9	8	2
M IQ	107	70	30
Range	94–120	56–95	—[a]
Control Group 1			
N	0	8	11
M IQ	—	74	36
Range	—	30–102	20–73
Control Group 2			
N	1	10	10
M IQ	99	67	44
Range	—	49–81	35–54

Note. Dashes indicate no score or no entry.
[a] Both children received the same score.

jects have remained stable. Only 2 subjects have been reclassified: 1 subject (now 18 years old) was moved from an aphasia to a normal classroom after the sixth grade; 1 subject (now 13 years old) was moved from an aphasia to an autistic/retarded class placement.

The MA and IQ scores of the two control groups remained virtually unchanged between intake and follow-up, consistent with findings from other studies (Freeman et al., 1985; Rutter, 1970). The stability of the IQ scores of the young autistic children, as reported in the Freeman et al. study, is particularly relevant for the present study because it reduces the possibility of spontaneous recovery effects. In descriptive terms, the combined follow-up data from the control groups show that their subjects fared poorly: Only 1 subject (2%) achieved normal functioning as evidenced by normal first-grade placement and an IQ of 99 on the WISC–R; 18 subjects (45%) were in aphasia classes (mean IQ = 70, range = 30–101); and 21 subjects (53%) were in classes for the autistic/retarded (mean IQ = 40, range = 20–73). Table 3 provides a convenient descriptive summary of the main follow-up data from the three groups.

One final control procedure subjected 4 subjects in the experimental group (Ackerman, 1980) and 4 subjects in Control Group 1 (McEachin & Leaf, 1984) to a treatment intervention in which one component of treatment (the loud "no" and occasional slap on the thigh contingent on self-stimulatory, aggressive, and noncompliant behavior) was at first withheld and then introduced experimentally. A within-subjects replication design was used across subjects, situations, and behaviors, with baseline observations varying from 3 weeks to 2 years after treatment had started (using contingent positive reinforcement only). During baseline, when the contingent-aversive component was absent, small and unstable reductions were observed in the large amount of inappropriate behaviors, and similar small and unstable increases were observed in appropriate behaviors such as play and language. These changes were insufficient to allow for the subjects' successful mainstreaming. Introduction of contingent aversives resulted in a sudden and stable reduction in the inappropriate behaviors and a sudden and stable increase in appropriate behaviors. This experimental intervention helps to establish two points: First, at least one component in the treatment program functioned to produce change, which helps to reduce the effect of placebo variables. Second, this treatment component affected both the experimental and control groups in a similar manner, supporting the assumption that the two groups contained similar subjects.

Analyses of variance were carried out on the eight pretreatment variables to determine which variables, if any, were significantly related to outcome (gauged by educational placement and IQ) in the experimental group and Control Group 1. Prorated mental age was significantly ($p < .03$) related to outcome in both groups, a finding that is consistent with reports from other investigators (DeMyer et al., 1981). In addition, abnormal speech was significantly ($p < .01$) related to outcome in Control Group 1. Chronological age at onset of our treatment was not related to outcome, which is important because the two groups differed significantly on this variable at intake (by 6 months). The failure of CA to relate to outcome may be based on the very young age of all subjects at onset of treatment.

Conceivably, a linear combination of pretreatment variables could have predicted outcome in the experimental group. Using a discriminant analysis (Ray, 1982) with the eight variables used in the first multivariate analysis, it was possible to predict perfectly the 9 subjects who did achieve normal functioning, and no subject was predicted to achieve this outcome who did not. In this analysis, PMA was the only variable that was significantly related to outcome. Finally, when this prediction equation was applied to Control Group 1 subjects, 8 were predicted to achieve normal functioning with intensive treatment; this further verifies the similarity between the experimental group and Control Group 1 prior to treatment.

Discussion

This article reports the results of intensive behavioral treatment for young autistic children. Pretreatment measures revealed no significant differences between the intensively treated experimental group and the minimally treated control groups. At follow-up, experimental group subjects did significantly better than control group subjects. For example, 47% of the experimental group achieved normal intellectual and educational functioning in contrast to only 2% of the control group subjects.

The study incorporated certain methodological features designed to increase confidence in the effectiveness of the experimental group treatment:

1. Pretreatment differences between the experimental and control groups were minimized in four ways. First, the assignment of subjects to groups was as random as was ethically possible. The assignment apparently produced unbiased groups as evidenced by similar scores on the 20 pretreatment measures and by the prediction that an equal number of Control Group 1 and experimental group subjects would have achieved normal functioning had the former subjects received intensive treatment. Second, the experimental group was not biased by receiving subjects with a favorable diagnosis or biased IQ testing because both diagnosis and IQ tests were constant across groups. Third, the referral process did not favor the project cases because there were no significant differences between Control Groups 1 and 2 at intake or follow-up, even though Control Group 2 subjects were referred to others by the same agency.

Fourth, subjects stayed within their groups, which preserved the original (unbiased) group assignment.

2. A favorable outcome could have been caused not by the experimental treatment but by the attitudes and expectations of the staff. There are two findings that contradict this possibility of treatment agency (placebo) effects. First, because Control Group 2 subjects had no contact with the project, and because there was no difference between Control Groups 1 and 2 at follow-up, placebo effects appear implausible. Second, the within-subjects study showed that at least one treatment component contributed to the favorable outcome in the intensive treatment (experimental) group.

3. It may be argued that the treatment worked because the subjects were not truly autistic. This is counterindicated by the high reliability of the independent diagnosis and by the outcome data from the control groups, which are consistent with those reported by other investigators (Brown, 1969; DeMeyer et al., 1973; Eisenberg, 1956; Freeman et al., 1985; Havelkova, 1968; Rutter, 1970) for groups of young autistic children diagnosed by a variety of other agencies.

4. The spontaneous recovery rate among very young autistic children is unknown, and without a control group the favorable outcome in the experimental group could have been attributed to spontaneous recovery. However, the poor outcome in the similarly constituted Control Groups 1 and 2 would seem to eliminate spontaneous recovery as a contributing factor to the favorable outcome in the experimental group. The stability of the IQ test scores in the young autistic children examined by Freeman et al. (1985) attests once again to the chronicity of autistic behaviors and serves to further negate the effects of spontaneous recovery.

5. Posttreatment data showed that the effects of treatment (a) were substantial and easily detected, (b) were apparent on comprehensive, objective, and socially meaningful variables (IQ and school placement), and (c) were consistent with a very large body of prior research on the application of learning theory to the treatment and education of developmentally disabled persons and with the very extensive (100-year-old) history of psychology laboratory work on learning processes in man and animals. In short, the favorable outcome reported for the intensive-treatment experimental group can in all likelihood be attributed to treatment.

A number of measurement problems remain to be solved. For example, play, communicative speech, and IQ scores define the characteristics of autistic children and are considered predictors of outcome. Yet the measurement of these variables is no easy task. Consider play. First, play undoubtedly varies with the kinds of toys provided. Second, it is difficult to distinguish low levels of toy play (simple and repetitive play associated with young, normal children) from high levels of self-stimulatory behavior (a psychotic attribute associated with autistic children). Such problems introduce variability that needs immediate attention before research can proceed in a meaningful manner.

The term *normal functioning* has been used to describe children who successfully passed normal first grade and achieved an average IQ on the WISC–R. But questions can be asked about whether these children truly recovered from autism. On the one hand, educational placement is a particularly valuable measure of progress because it is sensitive to both educational accomplishments and social-emotional functions. Also, continual promotion from grade to grade is made not by one particular teacher but by several teachers. School personnel describe these children as indistinguishable from their normal friends. On the other hand, certain residual deficits may remain in the normal functioning group that cannot be detected by teachers and parents and can only be isolated on closer psychological assessment, particularly as these children grow older. Answers to such questions will soon be forthcoming in a more comprehensive follow-up (McEachin, 1987).

Several questions about treatment remain. It is unlikely that a therapist or investigator could replicate our treatment program for the experimental group without prior extensive theoretical and supervised practical experience in one-to-one behavioral treatment with developmentally disabled clients as described here and without demonstrated effectiveness in teaching complex behavioral repertoires as in imitative behavior and abstract language. In the within-subjects studies that were reported, contingent aversives were isolated as one significant variable. It is therefore unlikely that treatment effects could be replicated without this component. Many treatment variables are left unexplored, such as the effect of normal peers. Furthermore, the successful mainstreaming of a 2–4-year-old into a normal preschool group is much easier than the mainstreaming of an older autistic child into the primary grades. This last point underscores the importance of early intervention and places limits on the generalization of our data to older autistic children.

Historically, psychodynamic theory has maintained a strong influence on research and treatment with autistic children, offering some hope for recovery through experiential manipulations. By the mid-1960s, an increasing number of studies reported that psychodynamic practitioners were unable to deliver on that promise (Rimland, 1964). One reaction to those failures was an emphasis on organic theories of autism that offered little or no hope for major improvements through psychological and educational interventions. In a comprehensive review of research on autism, DeMyer et al. (1981) concluded that "[in the past] psychotic children were believed to be *potentially* capable of normal functioning in virtually all areas of development . . . during the decade of the 1970s it was the rare investigator who even gave lip-service to such previously held notions . . . infantile autism is a type of developmental disorder accompanied by severe and, to a large extent, permanent intellectual/behavioral deficits" (p. 432).

The following points can now be made. First, at least two distinctively different groups emerged from the follow-up data in the experimental group. Perhaps this finding implies different etiologies. If so, future theories of autism will have to identify these groups of children. Second, on the basis of testing to date, the recovered children show no permanent intellectual or behavioral deficits and their language appears normal, contrary to the position that many have postulated (Rutter, 1974; Churchill, 1978) but consistent with Kanner's (1943) position that autistic children possess potentially normal or superior intelligence. Third, at intake, all subjects evidenced deficiencies across a wide range of behaviors, and during treatment they showed a broad improvement across all observed behaviors. The kind of (hypothesized) neural damage that mediates a particular kind of behavior, such as language (Rutter, 1974), is not consistent with these data.

Although serious problems remain for exactly defining autism or identifying its etiology, one encouraging conclusion can be stated: Given a group of children who show the kinds of behavioral deficits and excesses evident in our pretreatment measures, such children will continue to manifest similar severe psychological handicaps later in life unless subjected to intensive behavioral treatment that can indeed significantly alter that outcome.

These data promise a major reduction in the emotional hardships of families with autistic children. The treatment procedures described here may also prove equally effective with other childhood disorders, such as childhood schizophrenia. Certain important, practical implications in these findings may also be noted. The treatment schedule of subjects who achieved normal functioning could be reduced from 40 hr per week to infrequent visits even after the first 2 years of treatment. The assignment of one full-time special-education teacher for 2 years would cost an estimated $40,000, in contrast to the nearly $2 million incurred (in direct costs alone) by each client requiring life-long institutionalization.

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

A.S., *et al.*,

Plaintiffs,

-against- 1:17-CV-0501 (LEK/CFH)

BOARD OF EDUCATION
SHENENDEHOWA CENTRAL SCHOOL
DISTRICT, *et al.*,

Defendants.

MEMORANDUM-DECISION AND ORDER

I. INTRODUCTION

Plaintiffs R.S. and E.S. and their minor son, A.S., bring this action, pro se, against the Shenendehowa Central School District Board of Education ("District") and MaryEllen Elia, Commissioner of the State University of New York. Dkt. Nos. 1 ("Complaint"), 10 ("First Amended Complaint" or "FAC"), 76 ("Second Amended Complaint" or "SAC").[1] Plaintiffs allege violations of the Individuals with Disabilities Act ("IDEA"),[2] 20 U.S.C. § 1400, *et seq.*;

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[1] Plaintiffs also initially named Chief State Review Officer ("SRO") Justyn Bates as a defendant, but the Court has already dismissed with prejudice all claims against Bates. Dkt. No. 71 ("December 2017 Order") at 16.

[2] Although the Court of Appeals for the Second Circuit has specifically held that non-lawyer parents do not have the right to represent their children in proceedings before a federal court, see Tindall v. Poultney High Sch. Dist., 414 F.3d 281, 284 (2d Cir. 2005), the United States Supreme Court has held that parents have "independent, enforceable rights" under IDEA, Winkelman ex rel. Winkelman v. Parma City Sch. Dist., 550 U.S. 516, 532 (2007). Therefore, when parents file a complaint on their own behalf as well as on behalf of their minor child, and the complaint asserts independent claims for reimbursement, as is the case here, they are entitled to proceed in an action pro se. A.P. v. Woodstock Bd. of Educ., 370 F. App'x 202, 204 n.2 (2d Cir. 2010).

§ 504 of the Rehabilitation Act, 29 U.S.C. § 701, *et seq.*; the Fourteenth Amendment's vagueness doctrine; and the Americans with Disabilities Act ("ADA"), 42 U.S.C. § 2000d-7. SAC. Now before the Court are Defendants' motions for summary judgment. Dkt. Nos. 86 ("Elia SJ Motion"), 86-1 ("Elia Statement of Material Facts" or "Elia SMF"), 86-2 ("Elia Memorandum"), 88 ("District SJ Motion"), 88-6 ("District SMF"), 88-7 ("District Memorandum"). For the reasons that follow, Defendants' Summary Judgment Motions are granted, and the case is dismissed.

II. BACKGROUND

A. IDEA

IDEA's primary purpose is to ensure students with disabilities receive a free appropriate public education ("FAPE"), that "emphasizes special education and related services designed to meet students' unique needs and prepare them for further education, employment, and independent living." § 1400(d)(1)(A); Frank G. v. Bd. of Educ. of Hyde Park, 459 F.3d 356, 371 (2d Cir. 2006). IDEA requires schools to maintain a written individualized education program ("IEP") for each student with a disability. § 1414(d). Each student's IEP is developed by the relevant school district's Committee on Special Education ("CSE"), and must be "reasonably calculated to enable the child to receive educational benefits." Bd. of Educ. of Hendrick Hudson Cent. Sch. Dist. v. Rowley, 458 U.S. 176, 207 (1982).

A party may commence an administrative proceeding challenging an IEP as failing to provide a FAPE by filing a written complaint with the relevant school district, which will require an administrative hearing before an Impartial Hearing Officer ("IHO") selected from a list of approved IHOs maintained by the district. § 1415(f). Any party wishing to seek relief from the

IHO's decision may appeal the IHO's findings to the relevant state educational agency. §1415(g). The agency's State Review Officer ("SRO") is then required to conduct an impartial review of the IHO's decision. § 1415(g). If not appealed, the IHO's decision is final. § 1415(i)(1)(A). Further, the SRO's decision is final unless a party to that decision commences, as Plaintiffs have done here, an action in federal district court pursuant to § 1415(i)(2)(A). § 1415(i)(1)(B).

B. Factual Background

A.S. is a seven-year-old boy with Autism Spectrum Disorder ("ASD"). SAC ¶ 1; Dist. SMF ¶¶ 1–2; Elia SMF ¶ 1. A.S. initially received special education services in late 2012, but these services were terminated when Plaintiffs moved out of the country. Dkt. No. 35-2 ("SRO Decision") at 2; Elia SMF ¶ 3. In June 2014, after returning to the United States, A.S. was evaluated and found eligible for special education and related services. SRO Decision at 2–3; Elia SMF ¶ 4. Over the next year, A.S.'s program was modified by the District CSE multiple times. SRO Decision at 3–4; Elia SMF ¶ 5.

A.S. began the 2015–2016 school year as a kindergarten student attending the District's elementary school. Dist. SMF ¶ 9; SAC ¶ 10. Pursuant to New York Education Law § 3202, A.S. was not of compulsory school attendance age during the 2015–16 school year. Dist. SMF ¶10.

In October 2015, Plaintiffs expressed concerns to the school about A.S.'s placement. SRO Decision at 4–5; SAC ¶¶ 12–13; Elia SMF ¶ 6; Dist. SMF ¶¶ 11–12. The District CSE reconvened and, on October 22, 2015, produced a revised IEP for the 2015–16 school year. IHO Ex. 32. The parents then executed a first due process complaint notice challenging the IEP. SRO Decision at 4–5; SAC ¶¶ 12, 13; Elia SMF ¶ 6; Dist. SMF ¶ 11–12. They executed a second due process complaint notice in November 2015. SRO Decision at 5; SAC ¶ 1; Elia SMF ¶ 7; Dist.

SMF ¶ 13. In response to these complaints, Plaintiffs met with a subcommittee of the CSE on November 23, 2015, and the parties reached a resolution agreement, signed on December 4, 2015, that withdrew the due process complaints regarding the 2015–16 IEP. SRO Decision at 5–6, 41; SAC ¶¶ 16–17; Elia SMF ¶ 8; IHO Ex. 39; IHO Tr. at 860–63.[3] Pursuant to this agreement, Plaintiffs withdrew A.S. from the District's schools and enrolled him in the Newmeadow Preschool as a general education preschool student for the remainder of the 2015–16 school year, with a specified schedule of speech and occupational therapy. SAC ¶ 16; Dist. SMF ¶ 15; IHO Ex. 39.

In spring 2016, the District held a CSE meeting to complete an annual review and develop an IEP for A.S. for the 2016–17 school year, when he would be of compulsory attendance age and required to attend kindergarten. SRO Decision at 6; SAC ¶ 77; Elia SMF ¶ 9; Dist. SMF ¶ 19. A.S.'s IEP provided for him to attend the District's general education kindergarten class for the half-day that students without a disability typically attend kindergarten; in addition, it provided for A.S. to attend a special education class with a student to staff ratio not to exceed 12:1:1 (twelve students, with one certified special education teacher and one teaching assistant) for two hours per day (the District's "Connections" program). Dist. SMF ¶ 21; IHO Exs. 45, 46. In addition, A.S. would receive occupational and speech therapy six times per month. IHO Ex. 45 at 7. The IEP also recommended certain supplementary aids and services, program modifications, and accommodations. Id. at 7–8. The IEP did not specify that A.S. would be instructed pursuant to Applied Behavior Analysis ("ABA"), an instructional methodology

[3] The IHO Hearing Exhibits and IHO Hearing Transcript are included as files within the administrative record filed with the Clerk's office as Docket Numbers 31 and 32.

used with students with autism, as Plaintiffs had requested. SAC ¶ 24; Dist. SMF ¶ 22. However, the IEP did specify that school personnel would be trained in ABA. IHO Ex. 45 at 8. Unsatisfied with the IEP, Plaintiffs did not send A.S. to the District school for the 2016–17 school year until February 17, 2017. SAC ¶ 40; Dist. SMF ¶ 24. Instead, they home-schooled A.S., and also placed him in daycare part-time. SRO Decision at 42; SAC ¶ 40; IHO Tr. at 20–22.

On August 5, 2016, Plaintiffs filed a due process complaint regarding the 2016–17 IEP, alleging that A.S. "could not take advantage of an education not grounded in the principles of [ABA] [and] more specifically it was unconditionally clear that [A.S.] needed a comprehensive ABA program in order to make progress." IHO Ex. 1 at 1; Elia SMF ¶ 10; SAC ¶ 31; Elia SMF ¶ 10; Dist. SMF ¶ 23. Plaintiffs requested that A.S. either be reclassified to return to the preschool setting for 2016–17, or else that the District "establish an integrated ABA classroom." IHO Ex. 1 at 50–53. The parents indicated that the proposed ABA classroom must offer a full-day program, and that all therapists, special education teachers, and the school principal must be trained in function-based intervention and discrete trial training. Id. Further, the parents required that the "lead teacher" of the proposed ABA classroom have, "at a minimum," Board Certified Behavior Analyst ("BCBA") certification; that all assistants and therapists receive training in ABA interventions; and that the District acquire, with a "guaranteed minimum budget of $25,000," "all necessary items to set up an ABA classroom." Id.

A hearing before an IHO regarding the due process complaint was held in October 2016. SRO Decision at 9; SAC ¶ 42; Elia SMF ¶ 11; Dist. SMF ¶ 6–7; IHO Tr. On December 30, 2016, the IHO ruled that the District had provided A.S. with a FAPE as required by law. Dkt. No. 82-2 ("IHO Decision"); SRO Decision at 9; SAC ¶ 42; Elia SMF ¶ 12.

Plaintiffs appealed. On April 6, 2017, SRO Bates determined on April 6, 2017, that while the IEP was otherwise upheld, the District had failed to satisfy its least restrictive environment ("LRE") requirement for the 2016–17 school year. SRO Decision at 43; Dist. SMF ¶ 27. SRO Bates ordered the District to determine the extent to which A.S. should be placed with non-disabled peers in order to satisfy the LRE required under IDEA. Id. The SRO also found that the IHO erred by sua sponte concluding that the District did not commit any procedural violations, when the parties had not themselves raised that issue. SRO Decision at 19. The SRO also found that Plaintiffs were not owed any tuition reimbursement for their home instruction, whether as a pendency placement or unilateral placement. Id. at 41–42. The SRO also upheld the IHO's evidentiary decisions. Id. at 14–16.

After the SRO Decision and commencement of this action, the District's CSE developed a new IEP for A.S. for the 2017–18 school year, when he was in first grade; and his parents did not appeal that IEP. Dist. SMF ¶ 40.

C. Procedural Background

Plaintiffs filed suit on May 9, 2017, seeking review of the SRO decision regarding A.S.'s 2016–17 IEP, and challenging the state regulations that implement IDEA. Compl. Plaintiffs submitted the Amended Complaint on July 7, 2017. Am. Compl. On August 3, 2017, Plaintiffs submitted an ex parte motion for a preliminary injunction, seeking payment for expenses related to a proposed family move to a different school district, including "reasonable increases in cost of living, all rent increases necessary . . . and income and benefits lost . . . as a result of relocation." Dkt. No. 27 ("PI Motion") at 5.

The Court denied the PI Motion on August 7, 2017. Dkt. No. 29 ("August Order"). The District answered the Amended Complaint on August 11, 2017, Dkt. No. 36 ("Answer"), and SRO Bates and Elia jointly moved to dismiss, Dkt. No. 35 ("Motion to Dismiss").

On December 13, 2017, the Court granted in part and denied in part the Motion to Dismiss. Dkt. No. 71 ("December 2017 Order") at 16. Specifically, the Court dismissed with prejudice all claims against Bates, on the basis of absolute judicial immunity. Id. at 7–9, 16. Further, the Court dismissed against Elia all state law claims, all claims under § 504 of the Rehabilitation Act, and all claims under IDEA. Id. at 16. The Court granted Plaintiff leave to amend. Id. at 15.

On January 22, 2018, Plaintiff filed a Second Amended Complaint, to which Defendants filed answers. SAC; Dkt. Nos. 78 ("District Answer"), 79 ("Elia Answer"). After settlement talks proved unfruitful, Dkt. Nos. 82, 84–85, 89, Defendants filed the Summary Judgment Motions now before the court, District SJ Motion; Elia SJ Motion. Plaintiffs have not responded. Docket.

III. LEGAL STANDARD

A. Mootness

Defendants raise mootness as a defense against certain of Plaintiffs' claims regarding the 2016–17 IEP, since that school year has passed, and Plaintiffs have not contested the subsequent IEP. Dist. Mem. at 13.

A party seeking to have a case dismissed as moot bears a heavy burden. Harrison & Burrowes Bridge Constructors, Inc. v. Cuomo, 981 F.2d 50, 59 (2d Cir. 1992). There is no question that "Article III of the Constitution limits federal 'judicial Power,' that is, federal-court jurisdiction, to 'Cases' and 'Controversies.' " U.S. Parole Comm'n v. Geraghty, 445 U.S. 388,

395 (1980). However, the Supreme Court has "recognized an exception to the general rule [regarding mootness dismissals] in cases that are capable of repetition, yet evading review." Murphy v. Hunt, 455 U.S. 478, 482 (1982).

Judicial review of IEP challenges "invariably takes more than nine months to complete, not to mention the time consumed during the preceding state administrative hearings." Rowley, 458 U.S. at 186 n. 9. During the time of appeal and court review, a student has typically moved on to the subsequent grade. Such advances in grade level during the slow machinations of an IEP appeal should not eliminate the possibility of judicial review on mootness grounds. Here, the controversy over A.S.'s special education services is reasonably likely to recur. A.S. has another decade of schooling, during which he will continue to receive special education services, his parents will likely continue to perceive ABA methodology as essential, and the district will likely continue to resist imposing a fully integrated ABA program of the sort the parents have sought. Plaintiff's issues with 2016–17 IEP are therefore "capable of repetition, yet evading review," and are not moot. Independent of the Plaintiffs' claim for review of the SRO Decision on the merits, this case presents a live controversy because Plaintiff seeks compensatory education benefits arising out of A.S.'s statutory pendency entitlements.

B. IDEA claims

"IDEA actions generally are resolved on summary judgment." S.H. v. N.Y.C. Dep't of Educ., No. 10-CV-1041, 2011 WL 666098, *2 (S.D.N.Y. Feb. 15, 2011). Summary judgment in the IDEA context, however, is unique. "[T]he procedure is in substance an appeal from an administrative determination, not a summary judgment motion." M.H. v. N.Y.C. Dep't of Educ., 685 F.3d 217, 226 (2d Cir. 2012) (internal quotation marks and brackets omitted). It "involves

more than looking into disputed issues of fact; rather, it is a pragmatic procedural mechanism for reviewing administrative decisions."A.C. ex rel. M.C. v. Bd. of Educ., 553 F.3d 165, 171 (2d Cir. 2009) (internal quotation marks omitted). The inquiry is directed at "whether the administrative record, together with any additional evidence, establishes that there has been compliance with IDEA's processes and that the child's educational needs have been appropriately addressed." D.C. ex rel. E.B. v. N.Y.C. Dep't of Educ., 950 F. Supp. 2d 494, 498 n.1 (S.D.N.Y. 2013) (internal quotation marks omitted).

When considering a summary judgment motion filed in connection with an IDEA action, "a district court must conduct an independent review of the administrative record, along with any additional evidence presented by the parties, and must determine by a preponderance of the evidence whether the IDEA's provisions have been met." Id. at 498; 20 U.S.C. § 1415(i)(2)(c). This independent review is "by no means an invitation to the courts to substitute their own notions of sound educational policy for those of the school authorities which they review." Rowley, 458 U.S. at 206. Rather, the review is "circumscribed;" a district court "must give due weight to the administrative proceedings, mindful that the judiciary generally lacks the specialized knowledge and experience necessary to resolve persistent and difficult questions of educational policy." A.C. ex rel. M.C. 553 F.3d at 171 (internal quotation marks omitted). This standard of review "requires a more critical appraisal of the agency determination than clear-error review but nevertheless falls well short of complete *de novo* review." M.H., 685 F.3d at 244 (internal quotation marks and alterations omitted).

When "the decisions of an IHO and a SRO conflict, the Court should generally defer to the SRO's decision, as the final decision of the state authorities." F.B. v. N.Y.C. Dep't of Educ.,

923 F. Supp. 2d 570, 578 (S.D.N.Y.2013). This is particularly true "when the state officer's review has been thorough and careful." Id. However, where the district court "appropriately concludes that the SRO's determinations are insufficiently reasoned to merit that deference, and in particular where the SRO rejects a more thorough and carefully considered decision of an IHO, it is entirely appropriate for the court, having in its turn found the SRO's conclusions unpersuasive even after appropriate deference is paid, to consider the IHO's analysis, which is also informed by greater educational expertise than that of judges." Id. Further, "courts should defer to the IHO's analysis when considering an issue not reached by the SRO." C.F. ex rel. R.F. v. N.Y.C. Dep't of Educ., 746 F.3d 68, 77 (2d Cir. 2014).

The Second Circuit has provided guidance as to which administrative determinations are due most deference. "[D]eterminations regarding the substantive adequacy of an IEP should be afforded more weight than determinations concerning whether the IEP was developed according to the proper procedures." M.H., 685 F.3d at 244. "Decisions involving a dispute over an appropriate educational methodology should be afforded more deference than determinations concerning whether there have been objective indications of progress." Id. Determinations that are "grounded in thorough and logical reasoning" merit more deference than those that are not. Id. Finally, "the district court should afford more deference when its review is based entirely on the same evidence as that before the SRO"—the case here—"than when the district court has before it additional evidence that was not considered by the state agency." Id.

In sum, "judicial review of administrative decisions under the IDEA requires the court (1) to conduct an independent review of the administrative record, (2) to use a preponderance of the evidence standard, and (3) to give deference to the administrative determinations, particularly

that of the SRO." F.L. ex rel. F.L. v. N.Y.C. Dep't of Educ., No. 11-CV-5131, 2012 WL 4891748, at *5 (S.D.N.Y. Oct. 16, 2012), aff'd, 553 F. App'x 2 (2d Cir. 2014) (summary order).

C. Non-IDEA claims

As to Defendants' Motions for Summary Judgment on non-IDEA claims, the standard summary judgment standard of review applies. "[S]ummary judgment is proper 'if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.'" Celotex Corp. v. Catrett, 477 U.S. 317, 322 (1986) (quoting Fed. R. Civ. P. 56(c)). A fact is "material" if it "might affect the outcome of the suit under the governing law." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). The Court may ignore factual disputes that are "irrelevant" or "unnecessary." Id. "Summary judgment will not lie if the dispute about a material fact is "genuine," that is, if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." Id. "In making that determination, the court is to resolve all ambiguities and draw all permissible factual inferences in favor of the party against whom summary judgment is sought." Patterson v. County of Oneida, 375 F.3d 206, 219 (2d Cir. 2004).

II. DISCUSSION

Plaintiffs list fifteen "causes of action." SAC ¶¶ 77–192. The first through seventh causes of action are "in substance an appeal," M.H., 685 F.3d at 226, pursuant to IDEA, of the SRO Decision regarding the District's 2016–17 IEP on the basis of various alleged errors. SAC ¶¶ 77–137, 189–92. Plaintiffs' ninth, tenth, and fifteenth causes of actions—asserted against the District and Elia—assert that New York's regulations regarding students with disabilities,

codified at 8 N.Y.C.R.R. § 200, violate § 504 of the Rehabilitation Act, IDEA, and the Fourteenth Amendment's vagueness doctrine. SAC ¶¶ 137–92. Plaintiffs' other claims (the eighth and eleventh through fourteenth causes of action), raise placement and procedural issues that were not raised in Plaintiffs' August 5, 2016 due process complaint, id. ¶¶ 59–62, 185–88. and are therefore unexhausted and not properly before this Court. Cave v. E. Meadow Union Free Sch. Dist., 514 F.3d 240, 245 (2d Cir. 2008) (citing § 1415(i)(2)(A)).

A. IDEA Appeal

The SRO's 44–page decision reflects a comprehensive review of the record and articulates clear explanations for each conclusion. It parses the parties' arguments in great detail and contains ample citations to the record in support of each finding. The SRO recognized that Plaintiffs' primary dispute was that the 2016–17 IEP did not specify "a full-day, integrated intensive ABA program, modeled on the preschool program, and that provided the student with 40 hours per week of intensive ABA." SRO Decision at 33.

The SRO addressed the student's educational needs and whether those were such that only instruction utilizing the ABA methodology would enable his educational progress. The SRO properly noted that, generally, an IEP does not specify a methodology, but instead leaves that decision to the school. Id. at 35; see F.L., 2012 WL 4891748, at *9 ("[P]arents are not entitled to choose an educational methodology under the IDEA."). The SRO examined the hearing record and concluded that there was no evidence in the record that the student "required—in other words be exclusively limited to—an intensive ABA program." SRO Decision at 36–39.

The record, amply cited by the SRO, supports this conclusion, showing that the student had already received instruction using both ABA and non-ABA methodologies, and made

progress in individual and small group settings, as well as in larger group settings with adult support. Id. at 33–39. From September 2015 through November 2015, A.S. attended the District's half-day, integrated kindergarten, and the Connections special education class for the remainder of the day. IHO Tr. at 207–08, 211, 466; IHO Ex. 28 at 1, 7. At the impartial hearing, the special education teacher who taught the Connections class testified that when A.S. started the Connections program in September 2015, he was "very quiet" and needed extensive support to sit and attend the mainstream classroom. IHO Tr. at 207–14. However, the evidence in the record shows that by mid-October, A.S. began performing his morning routine more independently, including getting his own snack, sitting at the table and waiting for directions, waiting to be called for lunch with no prompts, and following the calendar routine. IHO Ex. 30, IHO Tr. at 211–12. Further, A.S.'s November 2015 speech-language update showed "steady progress," and indicated that he had increased his "use of English words" throughout the school day, including by "labeling school items, a variety of animals, action words, and body parts, as well as answering questions." IHO Ex. 33 at 3. A cognitive skills update also detailed A.S.'s progress in following routines and acting independently. Id. at 4. And while Plaintiffs have argued that A.S.'s behavior declined during that period, testimony by his special education teacher as well as a language pathologist noted his progress in this area as of November 2015. IHO Tr. at 236, 591, 597, 603, 605–07; IHO Ex. 35 at 4. Finally, the preschool speech-pathologist testified that A.S. made progress in both ABA and non-ABA approaches. IHO Tr. 660–63, IHO Ex. 41.

As to the appropriateness of the Corrections program, the record also included testimony about the research-based strategies the Corrections program was based upon, and the training required of the District's special education teachers. IHO Tr. at 489, 956–65; IHO Ex. 50.

At the IHO Hearing, the parents highlighted a doctor's report that the school "should consider a comprehensive [ABA] approach." IHO Tr. at 529–30, 572; IHO Ex. P-JJ at 1; IHO Ex. 1 at 21. The parents indicated that the doctor believed that the ABA program was truly essential for A.S., but had felt uncomfortable stating this explicitly in a report. IHO Tr. 530–32. Yet the doctor did not testify at the IHO Hearing, and the SRO could reasonably discount the parents' characterization of the doctor's stance given the doctor's report. SRO Decision at 36.

The Court finds that the SRO Decision was "thorough and careful" and therefore entitled to deference. M.H., 685 F.3d at 241. With that due deference in mind, the Court will now review each of the IDEA violations alleged by Plaintiff. In sum, though, after a review of the administrative record and the parties' filings in this litigation, the Court finds, by a preponderance of the evidence, that the requirements of IDEA "have been met" here. D.C. ex rel. E.B., 950 F. Supp. 2d at 498.

1. Pendency Placement (First Cause of Action)

Plaintiffs allege that the SRO erred in his determination regarding A.S.'s "pendency placement." SAC ¶¶ 77–81; SRO Decision at 41. Plaintiffs claim that A.S.'s pendency placement was home-based instruction, and Plaintiffs are therefore due reimbursement for that home-based instruction. Id.

IDEA requires that a student remain in his or her "then-current educational placement," unless the school and parents otherwise agree, during the pendency of an impartial hearing and

any subsequent appeals. § 1415(j). "[Section 1415(j) represents] Congress's policy choice that all handicapped children, regardless of whether their case is meritorious or not, are to remain in their current educational placement until the dispute with regard to their placement is ultimately resolved." Mackey ex rel. Thomas M., 386 F.3d at 160–61 (internal quotation marks omitted). The "current" program has been understood as that "described in the child's most recently implemented IEP." Mackey ex rel. Thomas M. v. Bd. of Educ. for Arlington Sch. Dist., 386 F.3d 158, 163 (2d Cir. 2004). And the relevant "placement" has been interpreted to mean the "same general level and type of services . . . [or] type of educational program" described in the last IEP, not the right to placement at a particular school. T.M. ex rel. A.M. v. Cornwall Cent. Sch. Dist., 752 F.3d 145, 171 (2d Cir. 2014) (internal quotation marks omitted). However, any pendency so created will be superceded if there is an agreement between the parties on placement during the course of a proceeding, whether or not it is reduced to a new IEP. Bd. of Educ. of Pawling Cent. Sch. Dist. v. Schutz, 137 F. Supp. 2d 83 (N.D.N.Y.2001), aff'd, 290 F.3d 476, 484 (2d Cir. 2002), cert denied, 537 U.S. 1227 (2003). Otherwise, if parents "unilaterally change their child's placement during the pendency of review proceedings, without the consent of state or local officials, [they] do so at their own financial risk." Sch. Comm. of Town of Burlington v. Dep't of Ed., 471 U.S. 359, 373–74 (1985).

Plaintiffs filed their due process complaint in early August 2016. SRO Decision at 5; SAC ¶¶ 36, 77; IHO Ex. 1. The SRO Decision identified A.S.'s October 22, 2015 IEP as the then-current educational placement as of the filing of the due process complaint. SRO Decision at 41; IHO Ex. 33. The SRO had sufficient basis for such a finding. As the SRO explained, the parents, in their IHO Hearing testimony, "essentially agreed" that this was the last agreed-upon

IEP. SRO Decision at 41; IHO Tr. at 860–63. While the parents filed complaints regarding the October 22, 2015 IEP, those complaints were withdrawn through a December 4, 2015 resolution agreement, which amended the October 22, 2015 IEP by specifying New Meadow as the place of instruction. SRO Decision at 41; IHO Ex. 39; IHO Tr. at 860–63. In the IHO Hearing, A.S.'s father referred to the resolution amending the IEP as the most recent IEP. IHO Tr. at 860–63. No later IEP or agreement appears in the record, let alone one that suggests, as Plaintiffs assert, SAC ¶¶ 77–81, that A.S.'s home-schooling was the student's pendency placement.

It is true that, as of the time of the August 2016 due process complaint, A.S. had aged out of the New Meadow pre-school, meaning his IEP would have to continue at the District kindergarten. However, that change in location did not nullify the status of A.S.'s October 22, 2015 IEP (as modified by the resolution agreement) as the "then-current educational placement," because an IEP does not grant the right to placement at a particular school, but rather the same general level and type of services. T.M. ex rel. A.M., 752 F.3d at 171. Accordingly, the SRO had sufficient basis to find that the modified October 2015 IEP was the then-current educational placement.

Accordingly, the Court finds that the preponderance of the evidence in the administrative record supports the SRO denial of Plaintiffs' request to reimbursement on a pendency basis for the cost of home instruction. SRO Decision at 41. Plaintiff's first cause of action is therefore dismissed.

2. Unilateral Placement (Second Cause of Action)

Plaintiffs also argue, in the alternative, that they should be reimbursed for A.S.'s home-based ABA instruction for the period August 29, 2016 through February 7, 2017, since that

instruction qualified as a permissible unilateral placement. SAC ¶¶ 82–89; SRO Decision at 41–42.

A parent who believes that his or her disabled child has been denied a FAPE under IDEA may unilaterally move that child to a private educational placement and then seek reimbursement from the school district. § 1412(a)(10)(C)(ii); Hardison v. Bd. of Educ., 773 F.3d 372, 376 (2d Cir. 2014); see also Sch. Comm. of Burlington v. Dep't of Educ., 471 U.S. 359, 369–70 (1985) ("Burlington"); Florence Cnty. Sch. Dist. Four v. Carter ex rel. Carter, 510 U.S. 7, 12 (1993) ("Carter"). To determine whether a parent is entitled to reimbursement for a unilateral placement, a court applies the three-pronged Burlington/Carter test, "which looks to (1) whether the school district's proposed plan will provide the child with a free appropriate public education; (2) whether the parents' private placement is appropriate to the child's needs; and (3) a consideration of the equities." C.F. ex rel. R.F., 746 F.3d at 73.

Parents bear the burden of demonstrating that the unilateral placement was appropriate for the child's needs, even if the IEP was inappropriate. M.H., 685 F.3d at 246. Nevertheless, "the standard applied to determine the appropriateness of parental placement is less restrictive and subject to fewer constraints than that applied to the school authorities." C.B. v. N.Y.C. Dep't of Educ., No. 02-CV-4620, 2005 WL 1388964, at *53 (E.D.N.Y. June 10, 2005). For instance, "an appropriate private placement need not meet state education standards or requirements," and parents "may not be subject to the same mainstreaming requirements as a school board." Frank G., 459 F.3d at 364. Nonetheless, IDEA's "requirement that an appropriate education be in the mainstream to the extent possible remains a consideration that bears upon a parent's choice of an alternative placement." S.H. v. N.Y.C. Dep't of Educ., No. 09-CV-6072, 2011 WL 609885, at *9

(S.D.N.Y. Feb. 18, 2011). Subject to those limited exceptions, "the same considerations and criteria that apply in determining whether the [s]chool [d]istrict's placement is appropriate should be considered in determining the appropriateness of the parents' placement." Frank G., 459 F.3d at 364. "Ultimately, the issue turns on whether a placement—public or private—is 'reasonably calculated to enable the child to receive educational benefits.'" Id. (quoting Rowley, 458 U.S. at 207). Further, "a unilateral private placement cannot be regarded as proper under the IDEA when it does not, at a minimum, provide some element of special education services in which the public school placement was deficient." Frank G., 459 F.3d at 365 (internal quotation marks and brackets omitted).

Here, the only deficiency with the IEP the SRO identified was the district's failure to consider the extent to which its program constituted a removal from the general education setting in a manner inconsistent with A.S.'s LRE. SRO Decision at 25–33, 42–43. As the Court upholds the SRO conclusion that the only deficiency in the IEP was the LRE issue, the unilateral placement can only be regarded as proper, or appropriate, if the unilateral placement addressed that LRE deficiency. See Frank G., 459 F.3d at 365.

The parents' unilateral placement did not address this deficiency. The parents did not place A.S. in a more general education setting or in a plausibly less restrictive environment. Rather, the parents provided A.S. home-based instruction that removed him even further from a general education setting. SRO at 42–43. Since this unilateral placement did not provide the element of special education services in which the District was deficient, it was not "proper." Frank G., 459 F.3d at 365.

Accordingly, the SRO had sufficient grounds to deny Plaintiffs' claim for reimbursement for A.S.'s unilateral placement, and Plaintiff's second cause of action is dismissed.

3. Attorneys' Fees (Third Cause of Action)

Plaintiffs seek attorneys' fees to compensate them for their pro se legal work in this action. SAC ¶¶ 90–95. Even where attorneys' fees are provided by statute, a pro se litigant who is not an attorney is not entitled to an award of such fees. Heldman v. Sobol, 846 F. Supp. 285, 290 (S.D.N.Y. 1994). Plaintiffs are proceeding pro se and are not attorneys, and are therefore not due any attorneys' fees. Therefore, this claim is dismissed.

4. SRO's Bias (Fourth Cause of Action)

In their fourth cause of action, Plaintiffs claim that the SRO "contort[ed] much of the facts, tweaking them in a manner favorable for the Defendants." SAC § 96. Plaintiffs do not, as part of this cause of action, specify what "facts" were "contorted." Id. Rather, Plaintiffs appear to argue that the other alleged other errors cited in their papers—which form the basis for many of their other causes of action—were made intentionally and reflect the SRO's bias against Plaintiffs. Id. Such conclusory allegations of SRO bias have been uniformly rejected by courts. See M.S. ex rel M.S. v. N.Y.C. Dep't of Educ., 734 F. Supp. 2d 271, 279 (E.D.N.Y. 2010) (rejecting plaintiff's contention of SRO bias); E.Z.-L. ex rel. R.L. v. N.Y.C Dep't of Educ., 763 F. Supp. 2d 584, 595 n.7 (S.D.N.Y. 2011), aff'd sub nom. R.E. v. N.Y.C. Dep't of Educ., 694 F.3d 167 (2d Cir. 2012) (same). The Court, having found the SRO Decision to be well supported by the record, finds no indication in the record of any bias, and dismisses this claim.

5. Evidentiary Decisions (Fifth Cause of Action)

In their fifth cause of action, Plaintiffs claim that the SRO erred by upholding the IHO's decision to not admit particular exhibits offered by Plaintiffs during the IHO Hearing. SAC ¶¶ 97–106; SRO Decision at 14–16; IHO Tr. at 56–108. Specifically, Plaintiffs claim that the SRO improperly excluded as exhibits academic publications that detailed methodologies including ABA. Id. ¶ 100. Plaintiffs further allege that the IHO's evidentiary decisions demonstrated bias. Id. ¶ 98.

New York State regulations require that an IHO "exclude evidence that he or she determines to be irrelevant, immaterial, unreliable, or unduly repetitious." 8 N.Y.C.R.R. § 200.5(j)(3)(xii)(c). IHOs have "broad discretion" in how they conduct the impartial hearing. M.M. v. N.Y.C. Dep't of Educ., No. 15-CV-5846, 2017 WL 1194685, at *7 (S.D.N.Y. Mar. 30, 2017).

The IHO did not exclude Plaintiff's academic publications categorically, but instead advised A.S.'s parents that such publications might later be entered into the hearing record as evidence, once proper foundation had been elicited from a witness. Id. at 56–60, 64–67, 71–72, 92, 97–98. The parents neglected to offer such foundation through further testimony. Given the lack of foundation proffered, as well as the redundant nature of some of the material, the SRO had sufficient basis to uphold the IHO's discretionary evidentiary decisions. Accordingly, Plaintiffs' evidentiary claim is dismissed.

6. The Right to a Particular Methodology (Sixth Cause of Action)

Plaintiffs contend that the SRO erred in finding that IDEA does not give A.S. a right to a particular educational methodology—in this case ABA instruction—in his IEP. SAC ¶¶ 107–122.

An IEP need not "mention evaluative methods or a particular teaching methodology" to be "substantively adequate." K.L. ex rel. M.L. v. N.Y.C. Dep't of Educ., 530 F. App'x 81, 86 (2d Cir. 2013). Further, "parents are not entitled to choose an educational methodology under the IDEA." F.L., 2012 WL 4891748, at *9. Rather, "teaching methodologies are typically left to the discretion of classroom teachers." S.B. v. N.Y.C. Dep't of Educ., 174 F. Supp. 3d 798, 805 (S.D.N.Y. 2016).

Given the discretion afforded schools in choosing methodologies, and the record's support for the adequacy of the special education methods used, the SRO did not err in finding that A.S. had no right to an exclusively ABA-based IEP plan. This claim is therefore dismissed.

7. Annual Goals (Seventh Cause of Action)

Plaintiffs claim that the SRO erred in upholding the annual goals set by A.S.'s 2016–17 IEP, which relied on inaccurate representations of A.S.'s present level of performance provided by the District. SAC ¶¶ 123–33.

An IEP must include "a statement of measureable annual goals, including academic and functional goals." § 1414(d)(1)(A)(i)(II). These goals must be "designed to meet the child's needs that result from the child's disability to enable the child to be involved in and make progress in the general education curriculum; and to meet each of the child's other educational needs that result from the child's disability." Id.

The SRO had sufficient basis to find that the present abilities detailed in the IEP accurately reflected A.S.'s abilities. The SRO Decision details at length the basis for the goals included in A.S.'s 2016–17 IEP. SRO Decision at 21–25. The CSE convened on two dates to develop the IEP. The first meeting included three staff members from A.S.'s then-current

preschool: the executive director, the student's speech-language pathologist, and the director of ABA services. SRO Decision at 21; IHO Tr. at 244, 478–79, 498–99, 660, 685–86, 773–79, 1017, 1151–52, 1192–93. Several witnesses at the impartial hearing testified that preschool staff, who would have observed A.S. in school, provided input regarding A.S.'s present levels of performance for the draft IEP. SRO Decision at 21–22; IHO Tr. at 238, 246, 278–79, 492, 498–502, 677–80, 779. And the hearing record includes evidence that the CSE discussed, reviewed, and revised the annual goals ultimately included in the IEP, in consultation with the parents. SRO Decision at 22. At the IHO Hearing, the special education teacher who attended the June 2016 CSE meeting testified that, when the CSE "started going through the goals," the parents indicated that A.S. could "already do these things," and that the CSE then rewrote the goals to be more consistent with A.S.'s apparent capabilities. IHO Tr. at 244–45; IHO Ex. 46 at 1, 6. Similarly, the special education director testified that the CSE modified the IEP's present levels of performance and goals to address parental concerns. SRO Decision at 22–23; IHO Tr. at 479–80. The SRO thoroughly explained the close alignment between the present levels of performance and the goals in the IEP. SRO Decision at 23–25; IHO Ex. 45 at 2–8. Accordingly, this claim is dismissed.

B. N.Y.C.R.R. Claims against Elia and the District

Plaintiffs' claim in their ninth, tenth, and fifteenth causes of action that the New York regulations regarding students with disabilities, codified at 8 N.Y.C.R.R. § 200, *et seq*, violate IDEA and the Fourteenth Amendment. SAC ¶¶ 137–84, 189–92. These claims do not involve factual disputes, but rather questions of law regarding the text and interpretation of § 200 and IDEA.

1. LRE Requirement (Ninth Cause of Action)

Plaintiffs argue, in what they label the ninth cause of action, that § 200, which was promulgated by Elia, and carried out by the District through A.S.'s IEP, improperly "segregates" students with disabilities so that they are "likely to be permanently disabled," in violation of IDEA. SAC ¶¶ 137–152. Essentially, Plaintiffs claim that § 200 does not comply with IDEA's LRE requirement that, to the maximum extent appropriate, disabled children be educated with nondisabled children. § 1412(a)(5)(A).[4]

The Second Circuit has explained that New York "has set forth regulations to implement the goals of the IDEA, which 'appear to track the IDEA closely.'" Frank G., 459 F.3d at 363. In fact, IDEA and § 200 *both* require that, to the "maximum extent appropriate," each child be educated in the LRE, § 1412(a)(5)(A); § 200.6(a)(1), 200.1(cc), and IDEA's LRE requirement "is embodied in both federal and state regulations." Jennifer D. v. N.Y.C. Dep't of Educ., 550 F. Supp. 2d 420 (S.D.N.Y. 2008). Thus, Plaintiffs' claim that § 200 does not comply with IDEA's LRE requirement fails as a matter of law, and is dismissed.

2. Void for Vagueness (Tenth Cause of Action)

Plaintiffs assert that § 200 is unconstitutionally vague, in violation of the Fourteenth Amendment and IDEA. SAC ¶¶ 153–84. Plaintiffs point to a handful a phrases that they find impermissibly vague. Plaintiffs complain that § 200.4(v)(b) directs that the "recommended program and services shall, to the extent practicable, be based on peer-reviewed research," but does not define "to the extent practicable" and "peer-reviewed research." SAC ¶¶ 165–66.

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[4] Plaintiffs also claim that by promulgating this regulation, Elia has violated § 504 of the Rehabilitation Act. SAC ¶ 138. However, the Court already dismissed this Rehabilitation Act claim against Elia. Dec. 2017 Order at 12–13.

Likewise, according to Plaintiffs, § 200.1 (cc) fails to sufficiently define "LRE." SAC ¶¶ 167–184. Plaintiffs also suggest that the regulations' failure to specify ABA as the one proper methodology for instruction of students with autism makes the regulations void for vagueness. SAC ¶¶ 180–82.

Void for vagueness challenges "are usually directed at criminal statutes and civil provisions which prohibit future individual conduct, particularly conduct protected by the First Amendment." Does v. Mills, No. 04-CV-2919, 2005 WL 900620, at *10 (S.D.N.Y. Apr. 18, 2005) (citing Boutilier v. I.N.S., 363 F.2d 488, 495 (2d Cir. 1966), aff'd, 387 U.S. 118 (1967)). However, New York's regulations implementing IDEA "are not criminal laws. They do not proscribe conduct protected by the First Amendment. Nor do they impose civil sanctions for certain types of conduct. Therefore the void-for-vagueness doctrine is not applicable." Id.

In any case, the phrases complained of are not vague. To the extent that the phrases are not defined by the regulations themselves, they are to be read according to plain-language meaning. See, e.g., Hobbs v. County of Westchester, 397 F.3d 133, 146 (2d Cir. 2005) (stating that "it is a general rule of statutory construction that, absent a definition in the statute, courts construe words in their plain and ordinary sense"). The fact that the regulations have been interpreted by courts in hundreds of cases without any apparent suggestion of their incomprehensibility suggests that they are not vague. Rather, the regulations, in keeping with IDEA ensure that schools maintain some discretion over the choice of instructional methodologies.

Plaintiffs' vagueness claim therefore fails as a matter of law and must be dismissed.

3. IEP Goals (Fifteenth Cause of Action)

Plaintiffs argue in their fifteenth cause of action that § 200 violates IDEA by failing to include "reducing prompt dependence" and "increasing conversation ability with neurotypical peers" as guaranteed goals on IEPs. SAC ¶¶ 189–192. In other words, Plaintiffs claim that § 200 does not comply with IDEA's legislative purpose of "ensur[ing] that all children with disabilities have available to them a free public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living." § 1400(d)(1)(A).

"IDEA's statutory scheme requires substantial deference to state administrative bodies on matters of educational policy" and "the judiciary generally lacks the specialized knowledge and experience necessary to resolve [such] persistent and difficult [issues]." Cerra v. Pawling Cent. Sch. Dist., 427 F.3d 186, 191–92 (2d Cir. 2005) (internal quotation marks and citations omitted).

Again, New York "has set forth regulations to implement the goals of IDEA, which 'appear to track the IDEA closely.'" Frank G., 459 F.3d at 363. And both IDEA and its state regulations require that each IEP include academic and non-academic goals, as well as evaluative procedures for measuring progress in achieving those goals. See § 1414(d)(1)(A)(i)(III) (directing that IEP include "a description of how the child's progress toward meeting the annual goals . . . will be measured"); § 200.4(d)(2).

The regulations represent a permissible educational policy choice by Defendants. They do not detail cookie-cutter goals for each type of disability, but instead reflect a more flexible standard for schools to work from, in keeping with IDEA's emphasis on "tailor[ing]" special education "to the unique needs of a particular child." Endrew F. ex rel. Joseph F. v. Douglas Cty.

Sch. Dist., 137 S. Ct. 988, 994 (2017). The Court will not upend that scheme by imposing a particular set of goals for all students with A.S.D., as Plaintiffs seem to propose. Accordingly, this claim is dismissed.

C. Unexhausted IDEA/Rehabilitation Act Claims (Eighth and Eleventh through Fourteenth Causes of Action)

Only after exhausting IDEA claims via due process complaint, the impartial hearing, and SRO appeal can an aggrieved party seek independent judicial review. Cave, 514 F.3d at 245. This exhaustion requirement for IDEA claims applies equally to relief available under other statutes such as the Rehabilitation Act. Id., at 244 n.2. Exhaustion is jurisdictional, and a court is without jurisdiction to consider any claims not included in a plaintiff's initial due process complaint. Id. at 243. The purpose of the exhaustion rule is to "channel disputes related to the education of disabled children into an administrative process that could apply administrators' expertise in the area and promptly resolve grievances." Id. at 246.

There are, though, three exceptions to the exhaustion requirement: "Congress specified that exhaustion is not necessary if (1) it would be futile to resort to the IDEA's due process procedures; (2) an agency has adopted a policy or pursued a practice of general applicability that is contrary to the law; or (3) it is improbable that adequate relief can be obtained by pursuing administrative remedies." Murphy v. Arlington Cent. Sch. Dist. Bd. of Educ., 297 F.3d 195, 199 (2d Cir. 2002).

Plaintiffs' eighth and eleventh through fourteenth "causes of action" were not raised in their initial due process complaint. IHO Ex. 1. The Eighth cause of action raises procedural issues not included in the due process complaint. SAC ¶¶ 134–37; SRO Decision at 17. The eleventh through fourteenth causes of action relate to A.S.'s placement during periods of time

other than the 2016–17 school year at issue here: the 2017–18 school year (eleventh cause of action, which Plaintiffs also frame as a Rehabilitation Act claim); the 2014–15 school year (twelfth cause of action); and the 2017 summer (fourteenth cause of action).[5] SAC ¶¶ 59–62, 185–88. Plaintiffs therefore failed to exhaust administrative remedies as required by IDEA and the Rehabilitation Act as to those claims; Plaintiffs have not argued that any exceptions to the exhaustion requirement exceptions apply. The Court is therefore without subject matter jurisdiction as to those claims, and must dismiss them. Cave, 514 F.3d at 245, 250.

D. ADA Claims

Plaintiffs further allege a generalized ADA claim, though they do not link it to any of their specific "causes of action." SAC ¶ 1.

Even if the Court were to find a violation of IDEA, "such a violation, without more, would be insufficient to support a claim of disability-based discrimination under the ADA or Section 504 of the Rehabilitation Act." French v. N.Y. State Dep't of Educ., 476 F. App'x 468, 473 (2d Cir. 2011). Plaintiffs fail to show that the alleged discrimination is anything more than a rehashing of their allegations that Defendants failed to provide A.S. with a FAPE. Accordingly, Plaintiffs' ADA claim is dismissed.

III. CONCLUSION

Accordingly, it is hereby:

ORDERED, that Defendants' Motions for Summary Judgment (Dkt. Nos. 86, 88) are **GRANTED**; and it is further

ORDERED, that Plaintiffs' claims are **DISMISSED in their entirety**; and it is further

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[5] The SAC includes no "thirteenth" cause of action.

ORDERED, that the Clerk of the Court shall serve a copy of this Memorandum-Decision and Order upon the parties in this action.

IT IS SO ORDERED.

DATED: February 20, 2019
Albany, New York

Lawrence E. Kahn
U.S. District Judge

MANDATE

N.D.N.Y.
17-cv-501
Kahn, J.
Hummel, M.J.

United States Court of Appeals
FOR THE
SECOND CIRCUIT

At a stated term of the United States Court of Appeals for the Second Circuit, held at the Thurgood Marshall United States Courthouse, 40 Foley Square, in the City of New York, on the 8th day of May, two thousand twenty.

Present:

Pierre N. Leval,
Raymond J. Lohier, Jr.,
Michael H. Park,
Circuit Judges.

R.S., individually and on behalf of their son, A.S., E.S., individually and on behalf of their son, A.S.,

Plaintiffs-Appellants,

v. 20-1153

Board of Education Shenendehowa Central School District, MaryEllen Elia, Commissioner of the University of the State of New York,

Defendants-Appellees,

Justyne Bates, Chief State Reviewer, Office of State Review New York State Education Department,

Defendant.

This Court has determined sua sponte that the notice of appeal was untimely because it was not filed within 14 days from the date of entry of the order reopening the time to appeal. Upon due consideration, it is hereby ORDERED that the appeal is DISMISSED for lack of jurisdiction. *See* 28 U.S.C. § 2107(c); Fed. R. App. P. 4(a)(6); *Bowles v. Russell*, 551 U.S. 205, 214 (2007).

A True Copy
Catherine O'Hagan Wolfe, Clerk
United States Court of Appeals, Second Circuit

FOR THE COURT:
Catherine O'Hagan Wolfe, Clerk of Court

MANDATE ISSUED ON 06/01/2020

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

A.S. a 7-year old child with Autism Spectrum Disorder (ASD) entitled to Special Education and Related services per IDEA represented by his parents R.S. *Pro Se* and E.S. *Pro Se*

Plaintiffs

-against-

Board of Education Shenendehowa Central School District, Commissioner MaryEllen Elia, of The University of the State of New York

Defendants

SECOND AMENDED COMPLAINT:

Case No. **1:17-CV-501 (LEK/CFH)**

Plaintiffs, R.S. and E.S., individually, and on behalf of their son A.S.

A.S. represented By R.S. *Pro se* and E.S. *Pro se, allege the following:*

The Parties

1. Plaintiff A.S. is a 7 year old boy with ASD and an Individualized Education Plan (IEP) that is entitled to all rights, entitlements and procedural safeguards mandated by applicable laws and statutes, including but not limited to IDEA (20 U.S.C. §§ 1400 – 1482), Article 89 of the New York Education Law, 34 CFR §§ 300 through 300.324, 8 NYCRR 200, Section 504 of The Rehabilitation Act of 1973, the FOURTEENTH AMENDMENT SECTION II, ELEVENTH AMENDMENT, Title II of the Americans with Disabilities Act, 42 U.S.C. § 2000d-7 and the Vagueness Doctrine of the U.S. Constitution.
2. Plaintiffs R.S. and E.S. are A.S. parents

3. Plaintiff A.S., E.S. and R.S. are all residents of the State of New York, residing at all relevant times within the Shenendehowa Central School District, within the Northern District of New York.
4. Plaintiffs are not expressly named herein by their given names because of the privacy guarantees to minors Fed. R. Civ. P. P. 9(a)(2) and also provided in the IDEA statute.
5. Defendant, The Shenendehowa Central School District ("Shen") is a "local educational agency" (LEA) and school district organized under the laws of the State of New York. Both procedurally and substantively, defendant Shen is statutorily obligated under the IDEA, Article 89 of the New York Education Law, 34 CFR § 300, 8 NYCRR 200, and Section 504 of The Rehabilitation Act of 1973 the FOURTEENTH AMENDMENT SECTION II, ELEVENTH AMENDMENT, Title II of the Americans with Disabilities Act, 42 U.S.C. § 2000d-7 and the Vagueness Doctrine of the U.S. Constitution to provide A.S. with a Free Appropriate Public Education (FAPE)--*that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living 20 U.S.C. § 1400(d)(1)(A)*--in A.S.'s Least Restrictive Environment (LRE). Shen Board of Education and administrative offices are located within the Northern District of New York at 5 Chelsea Place Clifton Park, NY 12065 Phone: (518) 881-0600; Fax: (518) 371-9393.
6. Defendant MaryEllen Elia is the Commissioner of the New York State Education Department, a State Educational Agency (SEA), organized under the laws of the State of New York. Both procedurally and substantively, Defendant Elia is statutorily obligated under the IDEA, 34 CFR § 300, and Section 504 of The Rehabilitation Act of 1973 the FOURTEENTH AMENDMENT SECTION II, ELEVENTH AMENDMENT and Title II

of the Americans with Disabilities Act, the Vagueness Doctrine of the U.S. Constitution, 42 U.S.C. § 2000d-7 to provide LEAs in New York State with laws, rules and regulations to provide individuals with disabilities a FAPE--*that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living 20 U.S.C. § 1400(d)(1)(A)*--in said students LRE to the maximum extent appropriate. Defendant Elia's office is located at the New York State Education Department within the Northern District of New York at 89 Washington Avenue Albany, New York 12234 P: (518) 474-3852.

Jurisdiction and Venue

7. Pursuant to 20 U.S.C. § 1415(i)(2)(A), 28 U.S.C. §1331, §1367 and §1391(b)(2) this Court has jurisdiction of this action without regard to amount in controversy 20 U.S.C. § 1415(i)(3) over all civil actions arising under the laws of the United State, and upon the fee-shifting provision of IDEA, 20 U.S.C. § 1415(i)(2)(A).
8. Venue is proper in that all Plaintiffs and defendants all reside or are situated within this judicial district.

Exhaustion of Administrative Remedies and Prior History

9. R.S. called the Shenendehowa District Office on 10/8/2015 to again express concerns of substantial regression observed in A.S., that occurred precipitously, since the first day of school at Tesago Elementary School on 9/7/2015 where phone call was returned later that day and R.S. expressed concerns and scheduled a meeting with the CSE regarding the

observed regression of A.S.[1]

10. On 10/22/2015 the CSE meeting did not appear to accomplish anything as educators assured R.S. and E.S. that everything was fine regarding A.S. progress. Further, the notes for the meeting prepared by Fall 2015 Kindergarten Connections Program Special Education Teacher from Tesago demonstrated, and later testified to that extent, that the skill level A.S. exhibited in the classroom (District Ex. 30), see (Tr. pp. 212 – 213; 476) was below the skill level he had exhibited at home and also that he had regressed to exhibit echolalia, a behavior that A.S. had previously extinguished at Newmeadow by extinction procedures (Tr. pp. 1126), an applied behavior analysis technique/methodology. This concerned the parents further: that participants at the CSE meeting claimed A.S. was perfectly fine, that they did not notice signs of regression and that they could not get him to demonstrate skills he had already achieved months earlier. Further, R.S. informed the CSE that goals on the IEP had already been achieved at home and that A.S. did not demonstrate in the class based on teacher observations.
11. Some days following that 10/22/2015 meeting R.S. demonstrated—by providing an afterschool Discrete Trial Training (DTT) to A.S. where A.S. exhibited some skills that teachers at Tesago could not get A.S. to demonstrate in the class using methods not grounded in DTT--to Fall 2015 Special Education Teacher from Tesago that A.S.'s skill level was beyond what his educational update demonstrated with use of ABA and Discrete Trial Training. Fall 2015 Special Education Teacher from Tesago later applied the DTT technique to get results that showed that A.S. (Tr. pp. 212 – 213; 476) skill level was beyond what was recorded by that same teacher previously, notwithstanding they were not

[1] A meeting notice dated 10/13/2015 was placed in the mail during the month of October for a CSE meeting to occur on 10/22/2015 (District Ex. 34)

consistent with level A.S. demonstrated with parents delivered ABA intervention.

12. By 11/2/2015 the due process complaint IHO case# 93791 was hand delivered to the Shenendehowa District Office (that was not District Ex. 31, the exhibit submitted by Shen as the purported due process complaint) (Actual complaint was Parents New Ex. 19 that is also identified as Joint Ex. 37). R.S. met with the Director of Special Education and Elementary CSE Chairperson regarding the due process complaint minutes after dropping off the due process complaint to the District Office.
13. However, A.S. had undergone further regression during the time between when the complaint was written 10/20/2015 and 11/5/2015. Because A.S. regression had substantially worsened on 11/10/2015 R.S. sent a follow up due process complaint (Joint Ex. 37)[2] that Shen agreed to absorb into the original complaint.
14. Around that time Susan T. Johns Esq. of Ferrara Fiorenza Shenendehowa's attorney for that matter sent an initial correspondence that Tesago teacher's reported that A.S. was progressing quite well, a matter that parents completely disagreed on with Shen on.
15. On 11/4/2015 A.S. completes and alumni visit to Newmeadow School where Newmeadow Executive Director noted A.S. had an inability to make eye contact and a return to stereotypical behavior for A.S. (Tr. pp. 730 – 735, 753 – 756, 759 – 761) in comparison to where he was on 8/2015 during the ESY at Newmeadow.
16. On 11/30/2015 as a result of the resolution agreement for the due process complaint A.S. returned to Newmeadow as a general education student (counted as a nondisabled peer because it was the only way the state education laws would allow A.S. to return to

[2] It that contained a greater amount of detail regarding A.S. regression and proposed solutions, than what was provided in the prior submitted iteration of the due process complaint, and it was accepted as an addition to the original complaint by Director of Special Education.

Newmeadow) in the integrated intensive ABA setting.[3]

17. By 12/31/2015 no Procedural Safeguards notice was provided by the Shenendehowa School District for the year of 2015.

18. In the initial days and weeks of A.S. return to Newmeadow, which was on 11/30/2015, Director of ABA Programs, noted A.S.'s data demonstrated he had significantly regressed compared to the period of April 2015 – August 2015 that includes the prior 2015 summer session and 2015 regular school year at Newmeadow (Tr. pp. 730 – 735, 753 – 756, 759 – 761, 1025 – 1026, 1127 – 1129; 1286 – 1295) and also noted by Newmeadow Executive Director. A.S. data (District Ex. 40) suggested—by parents' assessment of the Newmeadow data—that A.S. began to recover from the regression that occurred during his Fall 2015 enrollment at Tesago by late January 2016.

19. R.S. had emailed Director of Special Education on 3/23/2016, more than one month prior to the next IEP meeting to have a pre-meeting discussion. Consequently, R.S. had a phone conference with Elementary on 4/4/2016. During the 4/4/2016 phone conference Elementary, R.S. expressed how well A.S. was progressing at Newmeadow and how all the regression that was noted at Tesago had extinguished for some time. R.S. expressed that he wanted to ensure that modifications were made to A.S. IEP for the 2016 – 2017 school year and to the program being offered so that it was more consistent with the classroom make up and ABA methodology offered at Newmeadow since it was the only

[3] At 5 hours per day (25 hours/week) receiving 5 hours of special education services each week and 25 hours of intensive ABA intervention at Newmeadow each week. Special arrangements had to be made because A.S. was school age and Newmeadow was not approved to deliver a Kindergarten curriculum.

educational environment that A.S. had ever responded well to up to that point April 2016.[4] Since that time parents have learned that A.S. can also progress in a full inclusion classroom type setting with the appropriate supports.

20. On 4/19/2016 A.S. Fall 2015 Special Education Teacher from Tesago visits Newmeadow for observations (District Ex. 44) of A.S. for 30 minutes (Tr. pp. 242 – 244; 304 – 309).[5]

21. During May 2016 an IEP meeting was held for A.S. that with Executive Director of Newmeadow, Program Director of ABA program and A.S.'s Newmeadow Speech Pathologist in attendance (Tr. pp. 774 – 778). During the spring 2016 CSE meeting the SRO quotes directly from the hearing transcript it as "very contentious," and a "great deal of disagreement" existed about the "direction of the IEP" between the parents and a district representative at the meeting (Tr. pp. 776-79). This initial CSE meeting ended with a "disagreement" with the management needs section of the IEP, which had been "discussed at length" (Tr. pp. 780-82)." (SRO Decision 17-008 pp. 29).

22. On 5/21/2016 Parents meet with Dr. Anthony Malone of Captialcare Developmental Pediatrics to discuss programming direction for A.S. and consequences[6] if he does not

[4] Elementary expressed that A.S.'s report showed he made very good progress at Tesago. R.S. reiterated that A.S. had a significant regression at Tesago. Consequently, Elementary replied that they would have to observe A.S. at Newmeadow and determine what the appropriate placement. Elementary expressed that from that report it could be determined that an all day self-contained environment could be the right placement for A.S. and left things at that. It is worth mentioning that R.S. interpretation of the statement by Elementary along with taking her tone of voice indicated that she was warning R.S. not to interfere with A.S. IEP or a negative evaluation at Newmeadow by Shen would follow.

[5] Notes were completely biased and misrepresented the actual observation per creators testimony (Tr. pp. 242-244; 304 – 309) pertaining to negative observations of A.S rather than providing a thorough account, the document—that was barely legible notes on a blank sheet on ruled paper with no apparent organization--later found its way into the Defenses Exhibits equating to another procedural error.

[6] In this meeting Dr. Malone had verbally disclosed information that supported that the progress of children on the spectrum that receive ABA intervention vs. mixed method (often

receive ABA and recommendations moving forward (Parent Ex. JJ).

23. R.S. followed up with Director of Special Education and a follow up IEP meeting was scheduled with Elementary and Director of Special Education in early June 2016 a few weeks following the prior IEP meeting. From this meeting no agreement could be made on any section of the IEP. Further, from this meeting parents could not get agreement from the CSE to place specific goals similar to the Kindergarten Curriculum into the IEP. The rational for the goals was that A.S. was making a lot of academic progress in the ABA intervention he was receiving one-on-one directly from parents and at Newmeadow. The CSE rational for not allowing the goals proposed by parents was the IEP had to be substandard from the standard Kindergarten Curriculum. Parents disagreed with this rational and later learned that such rational is by law a denial of A.S. rights pursuant to Section 504 of the Rehabilitation Act of 1973.
24. Also, what came out of the CSE meeting was a statement from the Director that NYSED did not permit schools to put methodology in the IEP. She requested that parents try to provide descriptions (parents attempted to provide descriptions however they were limited at that time due to parents unfamiliarity with all the components of ABA at that time) of ABA because her hands were more or less tied down with regard to this ambiguous rule.
25. What had also come out of the CSE meeting and numerous other discussions was that a BCBA was not permitted to provide intervention in a public school (or possibly just at Shen) if they did not have a Special Education Teaching License[7].

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referred to as eclectic) intervention have consistently faired better in their progress towards recovery.

[7] It was inferred that the rule eliminates the possibility that a sizable portion of BCBA consultants could provide intervention in a public school setting because, most likely a sizable percentage of them do not have a special education license.

26. During June and July weeks several emails were also exchanged with Director of Special Education with regard to the Management Needs section of the IEP and also goals for A.S.
27. A follow up CSE meeting that occurred at Tesago Elementary School in June was not fruitful in resolving any of these matters.[8] In general CSE meetings were never fruitful in making any progress in A.S. IEP as the CSE insisted on using the same failed Connections Program for A.S. where goals and present levels were below A.S. abilities. In general parents consistently had the feeling that the Elementary and the Director of Special Education had the same consistent agenda to hold a position that A.S. placement in the Connections Program was the only option. Essentially, taking time to give parents the impression that they might have a voice but ultimately making decisions that completely ignored the concerns parents had and the key points they made regarding A.S.
28. On 7/7/2016 the school district informed R.S. and E.S. that the CSE made recommendations that were against parents request or that failed to acknowledge other disagreements.[9]
29. During June of 2016 Newmeadow made available to Shen a general education progress report on A.S. (Tr. pp. 1135) that would show to the contrary that the Connections Program was not an appropriate placement.
30. On early August 2016 R.S. calls Director of Special Education to express concerns about

[8] No agreement on the Management Needs regarding ABA, no agreement to provide an all day integrated program (now A.S. required a general education setting as an integrated setting is too restrictive), no agreement could be made on IEP goals, no agreement on present levels. However, Special Education Director incorporated some of the more trivial elements of the requested changes of the management needs section while avoiding the most important changes that was not a suitable solution nor compromise for the parents.

[9] For example, the letter indicated that Goals were reviewed rather than indicating that there was a disagreement on goals. Further, present levels were reviewed and parents insisted that A.S. abilities displayed at home influence the present levels and the goals.

the IEP process and what has been accomplished. On 8/4/2016 E.S. and R.S. email Shen Superintendent for Curriculum regarding the need for a comprehensive ABA classroom for A.S. On 8/5/2016 Shen Superintendent for Curriculum replies to E.S.'s email explaining that "parents do not influence methodology in the IEP." On 8/5/2016 R.S. hand delivers Due Process Complaint obo A.S. (along with a DVD containing PDFs of all the reference publications in the due process complaint) to Shenendehowa District office prior to 4:00pm and Superintendent for Curriculum signs for the due process complaint dating the signature 8/5/2016 as received with no other modification.[10]

31. On 8/5/2016 R.S. hand delivers Due Process Complaint obo A.S. (along with a DVD containing PDFs of all the reference publications in the due process complaint) to Shenendehowa District where Superintendent for Curriculum signs for and dates the complaint as received on 8/5/2016.

32. On 8/19/2016 R.S. contacts IHO by phone that Shenendehowa School District Failed to hold a Resolution Meeting by 15 calendar days following the receipt of the complaint because no meeting was scheduled on 8/19/2016 and none had been scheduled for 8/20/2016. Pursuant to (CR Part 200.5(J)(2)(vi)(b)) R.S. requested the IHO order that the 45-calendar-day due process hearing timeline for school-age students commence on 8/21/2016. However, the IHO still required the resolution session to occur citing it was a Federal Law despite Shen fail to hold the meeting on time.

33. On 8/23/2016 the conference between parents and School District regarding the due process complaint occurred via phone. Special Education Director claiming that A.S. responded well to the Connection Program previously and introduced Connections

[10]Several emails were exchanged in disagreement on the filing date of the due process complaint (Parent Ex. M).

Program Fall 2016 Special Education Teacher at Tesago as a teacher heavily experience in model ABA classrooms.

34. A letter was received in the mail from Shen attorney, Susan Johns, stating in writing that new special education teacher was part of a model ABA program at prior school district.

35. Later Testimony by Fall 2016 Special Education Teacher at Tesago (Tr. pp. 157 - 159) on 10/5/2016 demonstrated that she had made an egregious misstatement to parents regarding her experience with ABA.

36. On 8/29/2016 A.S. begins full time home based ABA therapy and intervention program during most of his waking hours 6 days a week, with 5 hours of academic (math, phonics, writing) and social skills (Expressive language, social skills and communication skills) discrete trials per day.[11] This was a transition from the program previously provided by parents that occurred for a portion of the day after A.S. complete his day at Newmeadow and during most hours of the weekend.

37. During early September 2016 R.S. requests Pendency placement for A.S. and Hearing Officer declines to make any pendency decision even following numerous requests from R.S. Not making a pendency decision left R.S. with no recourse to appeal no decision by the IHO.

38. On 9/14/2016 the Principle of Tesago Elementary notified Child Protective services that A.S. did not attend Tesago Elementary School for 6 consecutive days and that it was considered educational neglect.

39. R.S. calls Tesago Principle that Day 9/14/2016 or following day to explain that A.S. would

[11] The remaining time focused on self-help skills, Lego building, a puzzle component, logical reasoning, physical education that included soccer discrete trials, a dexterity component to strengthen hand grip and fine motor control of fingers, an art component for drawing images such as cars, people, animals and objects in a stepwise manner

not attend Tesago because of the risk that it could cause irreparable harm to A.S., this was said in so many words.

40. Parents declined to send A.S. to Tesago Elementary School and choose to educate A.S. at home by providing intensive behavioral and education intervention to A.S. in a DTT-heavy framework, during nearly all his waking hours because of severe regression from the fall of 2015 and that the program offered to A.S. did not materially change in the way parents requested.

41. On 10/5/2016 Educational Hearing Commences, 46 Calendar days following the initiation of the due process hearing timeline, from 10/5/2016 - 10/7/2016 at which point hearing has a 3 week recess and continues on 10/26/2016 – 10/27/2016. R.S. felt that he had insufficient time at the hearing to give testimony at hearing and was also cut short time wise.

42. On 12/30/2016 Decision is issued by Hearing Officer George Kandilakis and sent via mail that was received on or about 1/2/2017. Hearing Officer dismissed the parents' case on behalf A.S. entirely.[12]

43. On 1/12/2017 Parents file an intention to homeschool with tuition reimbursement and Shen replied sending a standard homeschooling packet not acknowledging the request for tuition reimbursement

44. On 1/13/2017 Family Court Judge orders parents to get their homeschooling plan approved by Shen.

45. On 2/7/2017 R.S. and E.S. submit appeal of Hearing Officer decision to State Review

[12] An educational update on A.S. filled out in a similar matter to an educational update that a home schooling provides a school district was sent to the Hearing Officer and the School District on 12/25/2016 as part of parents reply to the defenses post hearing brief

Officer of the New York State Education Department.[13]

46. On 2/8/2017 Family court Judge Pelagalli orders parents to initiate process to enroll A.S. in School

47. On Friday 2/17/2017 A.S. attends first day at Tesago Elementary School. Upon coming home from the morning kindergarten setting that was an integrated classroom parents observe A.S. had a slur in his language and loss in motivation. Shen was on spring break for from Monday 2/20/2017 to Friday 2/24/2017.

48. On 2/27/2017 A.S. is enrolled in a Saratoga Academy for the Arts and sciences and attends his first day of school. A.S. was very talkative and motivated after his first day of school.

49. Parents send notice of Unilateral Placement at Saratoga Academy to Shen on 2/28/2017 explaining that the Connections Program at Tesago Elementary School would result in serious emotional harm to A.S.

50. The due date of the SRO decision was delayed because of requests for time extensions.

51. On 4/6/2017 SRO decision 17-008, dated 4/3/2017, is received by parents in the mail where the appeal was sustained in part to the extent that the SRO found that Shen failed to offer A.S. a FAPE in the LRE for the 2016 – 2017 school year. Also, SRO ordered that the CSE reconvene within 30 days of the decision to do a Newington two-pronged analysis for A.S. after the SRO had already completed one supporting the parents' contention.

52. New York State has implemented a two-tiered system of administrative review to address disputed matters between parents and school districts regarding "any matter relating to the identification, evaluation or educational placement of a student with a disability, or a

[13] An educational update on A.S. filled out in a similar matter to an educational update that a home schooling provides a school district was sent to the SRO and the School District on 2/7/2017 as part of parents appeal

student suspected of having a disability, or the provision of a free appropriate public education to such student" (8 NYCRR 200.5(i)(1); see 20 U.S.C. §§ 1415(b)(6)-(7); 34 CFR §§ 300.503(a)(1)-(2), 300.507(a)(1)). First, after an opportunity to engage in a resolution process, the parties appear at an impartial hearing conducted at the local level before an IHO (Educ. Law § 4404(1)(a); 8 NYCRR 200.5(j)). An IHO typically conducts a trial-type hearing regarding the matters in dispute in which the parties have the right to be accompanied and advised by counsel and certain other individuals with special knowledge or training; present evidence and confront, cross-examine, and compel the attendance of witnesses; prohibit the introduction of any evidence at the hearing that has not been disclosed five business days before the hearing; and obtain a verbatim record of the proceeding (20 U.S.C. § 1415(f)(2)(A), §§ (h)(1)-(3); 34 CFR §§ 300.512(a)(1)-(4); 8 NYCRR 200.5(j)(3)(v), (vii), (xii)). The IHO must render and transmit a final written decision in the matter to the parties not later than 45 days after the expiration period or adjusted period for the resolution process (34 CFR §§ 300.510(b)(2), (c), 300.515(a); 8 NYCRR 200.5(j)(5)). A party may seek a specific extension of time of the 45-day timeline, which the IHO may grant in accordance with State and federal regulations (34 CFR § 300.515(c); 8 NYCRR 200.5(j)(5)). The decision of the IHO is binding upon both parties unless appealed (Educ. Law § 4404(1)).

53. A party aggrieved by the decision of an IHO may subsequently appeal to a State Review Officer (SRO) (Educ. Law § 4404(2); see 20 U.S.C. § 1415(g)(1); 34 CFR § 300.514(b)(1); 8 NYCRR 200.5(k)). The appealing party or parties must identify the findings, conclusions, and orders of the IHO with which they disagree and indicate the relief that they would like the SRO to grant (8 NYCRR 279.4(a)). The opposing party is

entitled to respond to an appeal or cross-appeal in an answer (8 NYCRR 279.5). The SRO conducts an impartial review of the IHO's findings, conclusions, and decision and is required to examine the entire hearing record; ensure that the procedures at the hearing were consistent with the requirements of due process; seek additional evidence if necessary; and render an independent decision based upon the hearing record (34 CFR § 300.514(b)(2); 8 NYCRR 279.12(a)). The SRO must ensure that a final decision is reached in the review and that a copy of the decision is mailed to each of the parties not later than 30 days after the receipt of a request for a review, except that a party may seek a specific extension of time of the 30-day timeline, which the SRO may grant in accordance with State and federal regulations (34 CFR § 300.515(b), (c); 8 NYCRR 200.5(k)(2)).

54. The Chief SRO sustains the parents' appeal in part finding that "the evidence in the hearing record establishes that, contrary to the IHO's determination, the district failed to offer the student a FAPE in the LRE for the 2016-17 school year." (See NYSED SRO Decision 17-008 pp. 43) but does almost nothing about it. While the SRO sustains the appeal in part the SRO reduces this sustainment with no orders for action beyond ordering the CSE to reconvene by May 5th, which is more or less to render the sustainment of the appeal completely moot and is to the compromise of the well being of A.S. by delaying this proceeding, by not issuing orders consistent with IDEA and the Second Federal Circuit Legal Precedent. Despite finding that Shen failed to offer A.S. a FAPE in the LRE for the 2016 – 2017 school year the SRO essentially dismissed the parents appeal.

55. In Plaintiffs opinion the actions of the SRO could allow for the further discrimination against A.S. on the basis of his ASD, which is a violation of A.S. Section 504 Rights or the Rehabilitation Act of 1973. This is so because the SRO has done her own

Newington/Cornwall Analysis of A.S. that supports that his LRE at the time of the appeal to the SRO that A.S. LRE was an all day-integrated setting without a self-contained portion. Further, the SRO was also aware that A.S. began attending Saratoga Academy of the Arts and Sciences (during February 2017 more than one month prior to reaching a decision) a general education school with no special education component to it demonstrating that A.S. LRE was a full inclusion environment, one where A.S. would be educated for the entire school day is a classroom that was a normal classroom that was also atleast average level classes.

56. In general the SRO did not use proper legal precedent or legal procedure to guide the decision that he made to order that the district and parents conduct their own Newington/Cornwall Analysis. The SRO knew for a fact that he could have compromised the well being of A.S. by making this decision because he would seriously delay the progress or this matter with these orders which would have the effect of requiring a new due process complaint to address the unresolved issues that would again have to go before a SRO.

57. A party aggrieved by the decision of an SRO may subsequently begin a Federal Action in the appropriate United States District Court. Clifton Park New York is part of The Shenendehowa School District and A.S. along with his parents are located in Clifton Park, New York. Because Clifton Park, NY is located within Saratoga County and Saratoga County is within the boundary of the Northern District of New York, the appropriate venue for this appeal is the United States District Court for the Northern District of New York.

58. On May 9, 2017 E.S. Pro Se and R.S. Pro Se commenced this action with this court Dkt. No. 1 ("Complaint")

59. On May 30, 2017 E.S. and R.S. send request to Shen to provide Request for Special Education Services for A. S. 2017 – 2018 School Year with Extended School Year and Summer 2017 Special Education Services. Some modifications and additions were made to the request to ensure it was received with the intended message at highest clarity resulting in a correction to the May 30th request submitted on June 2, 2017. As part of this request R.S. signed a consent form during late May and Early June to conduct evaluations to determine educational need and continued eligibility for special education.

60. During the week of 6/3/2017 A.S. undergoes several educational evaluations conducted by Shen employees at Saratoga Academy as part. The psychoeducational evaluation suggested that A.S. at the age of 6 years 6 months was atleast 2 years behind his peers in a Vineland Adaptive Behavior Composite score. The evaluations suggested that A.S. needed significant intervention (estimated to be on the order of several hours each day) to improve his expressive language. The evaluations also suggested that the intervention should begin immediately during the summer. The proposed intervention by evaluator was to teach A.S. some scripts that he could use in typical situations and also assisting A.S. to generalize those scripts while interacting with typically developing peers.

61. On 6/22/2017 an IEP meeting was held and the CSE offered--a dismally insufficient--one hour of intervention per week to A.S. in his LRE. The LRE was a structured camp setting run by a licensed teacher that offered available indoor space for intervention to be provided both privately and in the presence of peers. The camp setting was within the locale of the school district. Parents had requested several hours of intervention each day

in the camp setting to work on conversational skills with and without other peers, speech and basic academics. However, Shen declined to increase the offer to greater than 1 hour of intervention each week, broke into 2 30-minute sessions, citing staffing shortages and funding limitations. The one-hour of intervention was never provided due to a combination of scheduling conflicts and later A.S. enrolling in a camp outside the district in late July 2017. The decision to enroll A.S. in a camp outside the district was made in part by the rather insignificant offering of one hour of intervention per week during the summer.

62. **A.S. did not receive a single hour of intervention delivered by Shen or arranged by Shen for the entire 2016 – 2017 school year, nor for the summer of 2017 totaling a period of 12 months.** In parents opinion A.S. had experienced a significant regression during the summer due to Shen lack of interest in providing A.S. with an extended school year in his LRE. In parents observations and based on comparing prior skills assessments A.S. did not fully recover from his summer regression until late October 2017 placing A.S. developmentally at the same position he was in mid June 2017 with stronger reading and reading comprehension skills over June 2017. From late October 2017 to January 2018 A.S. has shown further improvement in reading comprehension, use of typical peer-aged language, improvements in math word problem solving, improvements in hand writing, improvements in sentence construction when writing, improvement in understanding abstract concepts and conversation initiation with a number of peers his age has also improved. However, similar to late October A.S. change in conversational ability and expressive language with same or similar aged peers has not improved. Likewise A.S. prompt dependence has shown no improvement/reduction also of significant concern.

63. During an October 10, 2017 IEP meeting the Elementary Committee for Special Education Chairperson would not agree to place a peer aged conversational exchange goal on A.S. 2017 – 2018 IEP, would not agree to place a reduction in prompt dependence goal on A.S. 2017 – 2018 IEP and would not agree to arrange for A.S. to have a shadow assist him with conversation during lunch and recess periods. A.S. needs a lot of improvement to be caught up to peers as he is still atleast 2 and 1/2 years behind his peers in conversational ability. That is to say that the gap in conversational ability has widened between June 2017 and January 2018. Parents hold opinion that the three reasons for this lack of progress in conversational ability and prompt dependence are: 1) the combined summer regression and early fall recovery that left A.S. with nearly no progress, in a most areas, for 4 months and ½ months or more than 1/3 of the year 2) is the Elementary CSE Chairperson Renee Young's unwillingness to place a conversation exchange nor reduction in prompt dependence goal on A.S. IEP 3) Renee Young's unwillingness to have an invisible shadow (not fully assigned to A.S. consistent with Parents New Ex. T p. S146 – S149) assist A.S. with peer-to-peer conversation during lunch and recess periods
64. On July 7, 2017 E.S. and R.S. filed amended complaint Dkt. No. 10 ("Amended Complaint"). Also, on July 7, 2017 all Defendants were served Dkt. No. 10 ("Amended Complaint")
65. The original Rule 26 conference scheduled for August 8, 2017 was moved to October 3 2017. Reply date to the complaint was moved to September 11, 2017. The court later on August 7, 2017 required responsive pleadings by 8/14/2017 as a result of a sealed motion Dkt. No. 27 ("Preliminary Injunction Motion") by Plaintiffs that was denied See Dkt. No. 29 ("Decision and Order") but there was a further order for all defendants to reply to the

amended complaint within 7 days. The School Board answered the Amended Complaint on August 11, 2017, Dkt. No. 36 ("District Answer").

66. On August 11, 2017 Defendants Elia and Bates submitted a Motion to dismiss the claim Dkt. Nos. 35 ("Motion"), 35-3 ("Memorandum").

67. On August 22, 2017 Plaintiffs relocate from address within Shen School District to New Address again within Shen School District.

68. On August 29, 2017 Plaintiffs file opposition to Motion to Dismiss Dkt. No. 50 ("Opposition").

69. On September 7, 2017 R.S. meets with Shen to enroll A.S. in first grade. A.S. is assigned to a cotaught classroom with Special Education and related services on A.S. IEP and attends first day at Arongen elementary school on 9/12/2017. The school day is from 8:05 am – 2:15pm.

70. Over, the course of 4 months Parents are of opinion that the cotaught classroom has the elements to be an appropriate placement for the duration of the school day. Parents feel the the general education and special education teachers of the cotaught classroom are exceptionally well trained and effective with A.S. in a number of relevant areas. Parents are of the opinion that other educators that work with A.S. are also very effective with A.S. Parents feel A.S. does not get appropriate support to engage in language exchange or interactive play during recess and lunch periods and does not get a sufficient number of opportunities to engage in language exchange throughout the school day. Parents are of the opinion that A.S. should have conversational exchange goal and a reduction in prompt dependence goal added to his IEP and the appropriate resources allocated to enable these goals to be achieved.

71. On September 22, 2017 Defendants Elia and Bates request to be excused from filing a Civil Case Management Plan (CCMP) and excusal from the Rule 26 conference in light of their pending motion Dkt. Nos. 35 ("Motion"), 35-3 ("Memorandum"). This court granted the excusal on September 26, 2017.
72. At the Rule 26 conference between Plaintiffs and Defendant Shen a date for dispositive motions was set to December 8, 2017. The date was later moved to December 19, 2017.
73. On December 13, 2017 Senior United States Judge Lawrence Khan issues a decision on Dkt. Nos. 35 ("Motion"), 35-3 ("Memorandum"), 50 ("Opposition") and 51 ("Reply"). The motion is denied in part and granted in part. The decision finds that the complaint against Defendant Bates is dismissed entirely with prejudice because the appropriate legal precedent in any U.S. District Court and any Federal Circuit Court supports that her quasi-judicial role entitles her to an absolute judicial immunity notwithstanding the arguments made by Plaintiffs that alleged SRO Bates failed to act within her capacity ignoring pertinent facts to arrive at illogical conclusion, where Bates found that A.S. was not offered a FAPE but effectively mooted the case via her decision that did not follow legal precedent and that SRO Bates discriminated against A.S.
74. The decision finds that the motion to dismiss the complaint against Defendant Elia is granted in part and denied in part. The decision finds that the complaint against Defendant Elia is at the proper venue that that district court has subject matter jurisdiction eliminating the possibility of an entire dismissal via a subject matter jurisdiction argument. Judge Khan's decision further finds that the Section 504 Claim (§ 504 of the Rehabilitation Act) against Defendant Elia is dismissed because "[s]uch a claim . . . requires proof of bad faith or gross misjudgment," id. (citing Wenger v. Canastota Cent. Sch. Dist., 979 F. Supp. 147,

152 (N.D.N.Y. 1997), aff'd mem., 208 F.3d 204 (2d Cir. 2000))." Judge Khan's decision finds that while Federal law claims against a state official are not barred in U.S. District Courts and the Federal Circuit, State Law Claims are barred by the Eleventh Amendment in U.S. District and Federal Circuit courts and dismisses all such state law claims. With regard to IDEA claims Judge Khan finds that "Insofar as Plaintiffs seek review of the SRO's decision, e.g., Am. Compl. ¶¶ 56–59, the Court agrees that the Commissioner is not a proper party. However, when a plaintiff "makes particularized allegations regarding a policy alleged to have been affirmatively promulgated by (the State Education Department)," the Commissioner is a proper party. Andrew M., 827 F. Supp. 2d at 141 n.3 ("NYSED is a proper defendant in this action, which challenges a NYSED policy that allegedly interferes with the IEP development process for disabled students in a systemic manner."). Plaintiffs allege in their eighth cause of action that, by not requiring schools to list a specific methodology in the Management Needs section on a student's IEP, the State Education Department failed to provide A.S. (and other children with ASD) a FAPE as required by the IDEA. Am. Compl. ¶¶ 87–101. According to Plaintiffs, A.S. "benefits significantly" from ABA, a specific methodology for teaching children with ASD, and they have requested that it be included in the Management Needs section of his IEP. Id. ¶ 87. However, the State does not require school districts to list specific teaching methodologies on IEPs, and the School District has not included ABA in A.S.'s IEP. Id. Plaintiffs claim that, by not requiring specific methodologies to be listed in IEPs, the State is not providing a FAPE to all students. Id. ¶¶ 90,

75. To the extent the Amended Complaint "state[s] a plausible claim that (the State Education Department's) interference with the IEP process has hampered the progress of" A.S.,

Andrew M., 827 F. Supp. 2d at 141, the IDEA claims against Commissioner Elia survive dismissal." Judge Khan finds that "Plaintiffs raise a number of new and novel claims in their Opposition" but decides that "Plaintiffs cannot use their Opposition to add new claims to the Amended Complaint." However, Judge Khan cites "it is within the sound discretion of the district court to grant or deny leave to amend." McCarthy v. Dun & Bradstreet Corp., 482 F.3d 184, 200 (2d Cir. 2007) (citing Zahra v. Town of Southold, 48 F.3d 674, 686 (2d Cir. 1995)). "The Court should give leave to amend a complaint "when justice so requires." Fed. R. Civ. P. 15(a)(2)."... "[W]hen addressing a pro se complaint, generally a district court 'should not dismiss without granting leave at least once when a liberal reading of the complaint gives any indication that a valid claim might be stated.'" Cusamano v. Sobek, 604 F. Supp. 2d 416, 462 (N.D.N.Y. 2008). Judge Khan Ordered that "the following claims against Elia are DISMISSED: all State Law claims, all claims under § 504 of the Rehabilitation Act, and all claims under the Individuals with disabilities Education Act, insofar as the claims are requests for review of the SRO's decision" and that regarding Pro Se Plaintiffs "the Court grants Plaintiffs thirty days to amend the Amended Complaint as to their claims against the School District and the remaining claims against Commissioner Elia." keeping in mind that "In dismissing SRO Bates as a defendant and some of the claims against Commissioner Elia, the Court has dramatically reduced the scope of the Amended Complaint. However, some of the dismissed claims against Bates and Elia could be properly brought against the School District.

76. As a result of the order to grant leave to Amend the Amended Complaint, the Dispositive Motion Date of December 18, 2017 was reset until after a second scheduled conference that will follow the receipt of the second Amended Complaint.

CAUSES OF ACTION

FIRST CAUSE OF ACTION: FOR THE 2016 – 2017 SCHOOL YEAR SHEN OFFERED A.S. AN INADEQUATE AND INAPPROPRIATE PENDENCY THAT WAS NOT REPRESENTATIVE OF THE THEN CURRENT IEP AND THEN CURRENT PLACEMENT WHEN THE DUE PROCESS COMPLAINT COMMENCED AND NEVER REIMBURSED PARENTS FOR PROVIDING A.S. WITH INTENSIVE BEHAVIORAL INTERVENTION IN PLACE OF THE INADEQUATE PENDENCY OFFERING BY SHEN.

77. The due process complaint (Parents New Ex. L (Joint Ex. 1)) rooted in this action commenced on August 5, 2016 while A.S. was completing a summer session at Newmeadow in an all-day integrated classroom that provided intensive behavioral intervention (IBI) at an intensity of 5 hours per day (Parents New Ex. L). This program was coupled with the parent's efforts to provide ABA with a heavy emphasis on Discrete Trial Training (DTT) at an additional 20 - 25 hours per week. A prior due process complaint that commenced in November of 2015 (Parents New Ex. S) against Shen regarding the regression A.S. experienced in the Connections Program resulted in a resolution agreement (District Ex. 39) during November of 2015 stipulated that A.S. would return to Newmeadow for the 2015 – 2016 school year as a general education student (paid for by parents at about $500 per month) receiving special education services (paid for by Shen). It is an educational standard that when a student attends a program during a school year that student has access to that same program in the summer if such a

program is offered—a students new school year begins at the start of the standard school year generally the first day of classes in the fall. While A.S. remained at Newmeadow for the summer of 2016 because A.S. was compulsory aged—turning 6 years old prior to December 1, 2016 A.S. was not permitted by New York State law to remain at Newmeadow for the 2016 – 2017 school year. The pendency placement offered by Shen and the program placement offered was considered to be a failure of Shenendehowa Central School District to offer A.S. a FAPE in the LRE in the SRO decision. From this failure of Shenendehowa Central School District to offer A.S. a FAPE in the LRE one can also conclude that if that same program was not considered to be a FAPE in the LRE it neither could it have been the adequate pendency placement.

78. Shen failed to reimburse parents for pendency placement (if their actions is so defined by this court as pendency) of A.S. as part of the ABA intervention parents provided to A.S. from 8/29/2016 – 2/7/2016. Shen's Director of Special Education received a bill for the services provided by parents on 6/29/2017: the break down of the relevant part of the bill was $30,875 for intensive behavioral intervention provided during the period 8/29/2016 – 2/7/2016 and $14,625 for ABA intervention provided from 2/8/2017 – 6/24/2017 totaling $45,500. In the SRO decision the SRO's rational was (SRO Decision pp. 41) "however, the parents now argue that the student's home-based ABA services, which began on August 29, 2016, constitute the student's pendency placement. In this case, focusing the inquiry on the last agreed upon placement at the moment when the due process proceeding was commenced—here, August 5, 2016—leads to the conclusion that the student's home-based ABA services, which began on August 29, 2016, cannot be the student's pendency placement (see Murphy, 86 F. Supp. 2d at 359), and therefore, the parents are not entitled

to reimbursement for the ABA services they provided to the student on this basis. Instead, it appears that the special education services set forth in the resolution agreement—and thereafter, reduced to the IEP entered into the hearing record as District Exhibit 33—represents the student's last agreed upon placement at the time the parents commenced the due process proceeding. Consequently, the parents' request to be reimbursed for providing the student's home-based ABA services must be dismissed." This is seriously erroneous rational forwarded by the SRO. First, the SRO assumes that the home-based ABA services began on 8/29/2016. This contention is not accurate A.S. was receiving home based ABA services from the parents since late spring of 2015 (that evolved to be more complex and strategic in nature over time as a consequence of practice combined with study of the theory and methods used in ABA) after the parents received training from the Preschool's BCBAs. Rather it is argued that on 8/29/2016 A.S. began exclusively receiving intervention from parents. Up to that point parents provided ABA and DTT intervention to A.S. at 20 hours per week. That duration increased to 50 hours per week for most weeks from the period 8/29/2016 to 2/7/2017.

79. For purposes of reference—in the event that this court reviews the SRO decision--this court should be made aware of the abuse of discretion the SRO took to arrive at much of her decision. Among the abuse in discretion the SRO erred in determining that the last agreed upon IEP was District Exhibit 33 since that IEP was dated 10/22/2015 and two due process complaints were filed during early November 2015 an IEP. This was a seriously erroneous assumption that the SRO applied because District Exhibit 33 preceded the due process complaints. A further, erroneous assumption by the SRO was that District Exhibit 33, could be extrapolated to be the last agreed upon IEP from district Exhibit 39, the

resolution agreement. How could the SRO possibly conclude with any legal or logical argument that a contested IEP, especially (District Ex. 33) one that never gained the parents approval that resulted in a due process complaint because of its substantial inadequacy could ever be A.S.'s pendency especially when a resolution agreement follows.

80. What is even more confounding about the SRO decision is that the SRO seems to be disorganized in that the SRO in one instance attempts derail the parents pendency argument by stating that the parents began the intensive intervention on 8/29/2016 after the date of the due process complaint of 8/5/2016 and then attempts to extrapolate that a contested IEP, District Ex. 33 that was never supported (it was never, not for a moment, an agreed upon IEP) by the parents, would be the pendency. How can a last agreed upon IEP not be the resolution agreement and its specific fine details--that were written to ensure that A.S. received a FAPE.

81. A review of the resolution agreement (District Ex. 39) reveals that part of the resolution agreement states that the services would be provided at Newmeadow. And that the District would transport the student to Newmeadow in the morning and then pick him up in the afternoon. The transportation dropped of the student each day at the ABA Preschool at approximately 9:00am and then picked him up each day at approximately 2:00pm. Thus, the district transported the student to be at Newmeadow, with a school bus designated to take A.S. to and from Newmeadow where A.S. was the only student on the bus, for 5 hours each day at 5 days per week at Newmeadow or 25 hours each week. Further the Director of Special Education contacted the Preschool to make arrangements for them to take A.S. as a general education student while agreeing to pay the Preschool for 5 hours of

direct services per week. Taking these two facts: 1) that the Director made arrangement for A.S. to return to Newmeadow 2) that the Director made arrangements for A.S. to be transported to and from Newmeadow to be there for a 5 hour day strongly supports that the last agreed upon IEP was one that included 25 hours of the ABA per week in a classroom setting that includes typical peers for the entire duration. In addition to the 25 hours of ABA programming at the preschool each week the parents provided ABA intervention to A.S. at about 15 - 20 hours per week, and also during nearly all of A.S. waking hours.

SECOND CAUSE OF ACTION: SHEN DID NOT REIMBURSE THE PARENTS FOR UNILATERAL PLACEMENT (IF THEIR ACTIONS ARE SO DEFINED AS UNILATERAL PLACEMENT)

82. Shen did not remit parents reimbursement for unilateral placement (if their actions are so defined as unilateral placement) of A.S. as part of the ABA intervention parents provided to A.S. from 8/29/2016 – 2/7/2016.

83. (IHO Decision pp. 1 - 17) The IHO did not acknowledge request for retroactive tuition reimbursement (regardless of whether the placement was Pendency or Unilateral placement) for parents delivering an ABA behavioral therapy and instruction program. Similarly, Shen failed remit payment to parents despite the SRO_finding that (NYSED SRO Decision 17-008) "the evidence in the hearing record establishes that, contrary to the IHO's determination, the district failed to offer the student a FAPE in the LRE for the 2016-17 school year." If district fails to offer a student a FAPE in the LRE then the child is entitled to have reasonable costs associated with receiving an education reimbursed if the parents can demonstrate that their private placement was appropriate. The SRO states

"the evidence in the hearing record does not include any notification by the parents that they intended to withdraw the student from the district and seek reimbursement for services, such as the 10-day notice of unilateral placement called for by the IDEA (20 U.S.C. § 1412(a)(10)(C)(iii)(I); see 34 CFR § 300.148(d)(1)). Thus, other than the parents now requesting reimbursement for delivering the home-based ABA therapy and educational program as a unilateral placement, the hearing record contains no evidence that I find is an appropriate basis upon which to predicate an award of tuition reimbursement as envisioned under Burlington/Carter."

84. The SRO in this case makes a decision on the basis that there may be a limitation on reimbursement. However, careful inspection of the reference Procedural Safeguards Document reveals the following guidelines for recompense (pg. 40 – 41 of the June 2016 version of the Procedural Safeguards Notice):

85. Reading into the Procedural Safeguards the cost of reimbursement "2. may, in the discretion of the court or an IHO, not be reduced or denied for the parents' failure to provide the required notice if: (a) the parent is not literate or cannot write in English; or **(b) compliance with the above requirement would likely result in serious emotional harm to the child."** Again referencing the same exhibits and testimony in the transcript the parents also argue that even 10 days in the connections program would have likely resulted in serious emotional harm to A.S. The parents further state that on or about 9/14/2016 R.S. had a conversation with Principle Pace of the Tesago Elementary School Stating that A.S. would not attend the Connections Program because it would endanger A.S. well being. The SRO should have reached this conclusion since the parents issued the statement that the Connections Program would likely result in serious emotional harm to

A.S. to Shen on 2/28/2017 the day after enrolling A.S. in Saratoga Academy and faxed a copy of the unilateral placement to the SRO. It should also be noted that R.S. left Tesago Elementary School a voicemail on Friday September 12, 2016 the 5th day school was in session informing the school that he was not comfortable sending A.S. to the Connections program this was because of concerns for A.S. emotional well being given his reaction (that included a significant regression that took two months to recover from the Connection Program in Fall 2015 (See Parents New Ex. L) and the inappropriateness of the program for A.S.

86. In prior cases such as (Application of the..., Appeal NYSED SRO Decision No. 15-025) SRO cites that "A board of education may be required to reimburse parents for their expenditures for private educational services obtained for a student by his or her parents, if the services offered by the board of education were inadequate or inappropriate, the services selected by the parents were appropriate, and equitable considerations support the parents' claim (Florence, 510 U.S. 7 (1993); Sch. Comm. Of Burlington v. Dep't of Educ., 471 U.S. 359, 369-70 (1985); T.P. v. Mamaroneck Union Free Sch. Dist., 554 F.3d 247, 253 (2d Cir. 2009)).). In Burlington, the Court found that Congress intended retroactive reimbursement to parents by school officials as an available remedy in a proper case under the IDEA (471 U.S. at 370-71; see Gagliardo, 489 F.3d at 111; Cerra, 427 F.3d at 192). "Reimbursement merely requires (a district) to belatedly pay expenses that it should have paid all along and would have borne in the first instance" had it offered the student a FAPE (Burlington, 471 U.S. at 370-71; see 20 U.S.C. § 1412(a)(10)(C)(ii)"

87. Further in (Application of a STUDENT WITH A DISABILITY, NYSED SRO Decision No. 15-001) if a district fails to offer a student FAPE, it is next necessary to consider

whether the unilateral placement selected by the parent was appropriate. A.S. is provided educational instruction specially designed to meet his unique needs at the correct intensity of 50 hours per week targeted intervention in addition to nearly all his waking hours in a active but untargeted sense. A private school placement" (in A.S.'s case a program delivered by R.S. and E.S. designed to meet his unique needs) "must be "proper under the Act" (Carter, 510 U.S. at 12, 15; Burlington, 471 U.S. at 370), i.e., the private school must provide an educational program which meets the student's special education needs (see Hardison v. Bd. of Educ., 773 F.3d 372, 386 (2d Cir. 2014)"... " A parent's failure to select a program approved by the State in favor of an unapproved option is not itself a bar to reimbursement (Carter, 510 U.S. at 14). The private school need not employ certified special education teachers or have its own IEP for the student (id. at 14). Parents seeking reimbursement "bear the burden of demonstrating that their private placement was appropriate, even if the IEP was inappropriate" (Gagliardo, 489 F.3d at 112; see M.S. v. Bd. Of Educ., 231 F.3d 96, 104 (2d Cir. 2000)"

88. In bearing the burden that the home based ABA intervention program was appropriate for A.S. the parents first cite the SRO decision pertaining to the appropriateness of A.S. goals. While the parents dispute the appropriateness of the goals laid out in the disputed IEP ((tab 128) District Exhibit 45 pp. 6). Astonishingly, the SRO ruled that the goals set fourth in the disputed IEP were appropriate (See SRO Decision pp. 25)"As the discussion above demonstrates, the evidence in the hearing record leads me to the overall conclusion that the annual goals in the June 2016 aligned with and targeted the student's needs identified in the present levels of performance, appropriately addressed the student's needs, and were sufficiently specific and measurable to guide instruction and to evaluate the student's

progress over the course of the school year" In comparing A.S. progress in the January 27th, 2017 update provided on A.S.

89. These exhibits are educational updates that were provided to the Shenendehowa School District despite no IHIP being filed. A.S. made quite substantial gains from the intensive ABA intervention that we the parents provided. For example, compare A.S.'s educational updated dated 1/27/2017 (Parents New Exhibit SSS) to the IEP goals ((tab 128) District Exhibit 45 pp. 5) that CSE proposed for A.S. to achieve by 6/15/2017 and you will notice that these achievements are far beyond the goals that CSE set in the last IEP that the CSE generated (this was the IEP that was contested per the Due Process Complaint) in every category. As another point to support the parents provided an appropriate program and a program more appropriate than that of the Connections Program the parents cite the testimony by the Fall 2015 Kindergarten Connections Program Teacher for A.S. during the fall of 2015. She later applied an educational technique demonstrated by R.S. to get results that showed that A.S. (Tr. pp. 212 – 213; 476) skill level was beyond what was recorded in the Connections Classroom albeit still not consistent with level observed at home. To this extent, the Parents had to provide a demonstration to the Tesago Elementary schoolteacher to help demonstrate that A.S. level was beyond what she was able to get him to demonstrate in the class. Again supporting the appropriateness of the home based program provided to A.S. Another element of the home-based program was exposure to typically developing peers. To this extent A.S. attended after school care 2 – 3 days a week and soccer two times each week totaling 5 opportunities per week for social engagement in both conversational situations and competitive sport situations. At afterschool care parents worked with the staff to create social opportunities that increased

A.S. social participation within the classroom using a book *Making a Difference* by Catherine Maurice proving exercises for increasing peer interaction in the classroom. R.S. ensured that A.S. participated in an educational and social experience that was consistent with kindergarten general education and his progress reflected that such a program was appropriate and well thought out by R.S. and E.S.

THIRD CAUSE OF ACTION: THE DEFENDENTS FAILED TO OFFER AND FAILED TO PROVIDE A.S. WITH A FAPE IN THE LRE FOR THE 2016 – 2017 SCHOOL YEAR BUT SHEN DOES NOT REIMBURSE LEGAL FEES TO PARENTS

90. While the SRO states that "the evidence in the hearing record establishes that, contrary to the IHO's determination, the district failed to offer the student a FAPE in the LRE for the 2016-17 school year." No Pro se legal fees were reimbursed to parents as part of the fee-shifting provision of IDEA, 20 U.S.C. § 1415(i)(2)(A) even though the fees were reasonable and amounted to $50 per hour for 500 hours of effort and $1,500 in expenses.

91. One might argue that pro se litigants are not entitled to reimbursement in special education proceedings citing (Rappaport v. Vance, 812 F. Supp. 609 (D. Md. 1993)).

92. Such an argument itself is without true merit because should prevailing parties under IDEA only be entitled to reimbursement of legal representation fees by an attorney then this provision is certainly a very special provision reserved for those who can afford attorney fees for attorneys that have a strong enough background to navigate through such complex cases. Legal fees for attorneys that have the requisite background to fully understand the legal basis, be able to navigate through extensive special education evaluations, IEPs, understanding the publications and knowing the specific evidence based

approaches in autism spectrum disorder, understand the nuances between a good and bad approach, understanding the classroom environment and being able to tie everything together generally costs $250 - $750 per hour. Parents felt legal fees of 1/5 to 1/15 those figures was very conservative. In general parents have been permitted to represent their child pro se because of the excessive costs to litigate such intricately complex cases that precluded most with such a valid educational dispute from appealing the disputes. The act of representing one's child pro se is an effort that ultimately supports the education of the child, if the parent is the prevailing party, as it lays a foundation for the future education of the child and ultimately their ability to live independently in society.

93. Thus, prevailing pro se parents must be entitled to reimbursement because if they are indeed prevailing then they must have navigated through the legal procedure in a sufficiently adequate manner to prevail and legally demonstrate the merits of their child's case.

94. Because of the relationship between time and money there is an obvious advantage given special education cases where parents hire a lawyer. Should those parents that hire a lawyer prevail they are awarded reimbursement. Thus, they are at break even with regards to legal expenses. Their net cost is sufficiently less. On the other hand, if a parent is not is a position to lay down the money and is strongly convinced their child has been denied their educational rights then they must represent their child pro se and if they prevail the time invested can not be recovered. This unfair burden to conveying to parents that their time is of no recoverable value in pro se representation further erodes the special education system in this country because it positions schools to engage in a greater number of failures to offer a FAPE in the LRE. Further, it effectively reduces both the number of

valid cases that are pursued by financially strained parents and effectively erodes the spirit of pursuit knowing that they must invest such a great deal of time in a valid case where they forgo earnings unrecoverable they could have made had they concentrated on their job thereby jeopardizing their overall financial position even when they are the prevailing party.

95. The merits of awarding parents reasonable pro se representation fees when they are the prevailing party far outweigh the merits of not doing so.

FOURTH CAUSE OF ACTION: THE SRO CONTORTS MUCH OF THE FACTS TWEAKING THEM IN A MANNER FAVORABLE FOR THE DEFENDANTS.

96. The SRO has written much of the decision with interpretation of information to erroneously draw conclusions to "contort" information in a convenient manner to reach an erroneous conclusion. However, here the number of times that the contortion occurred to disfavor the parents and favor the district strongly suggests they must have been knowingly done by the SRO. In one case the SRO could argue that the information was sufficiently high and difficult to navigate through to warrant the errors. Next, the SRO might argue that the SRO disfavored the parents because the SRO gives the district the benefit of the doubt while denying parents such a privilege, creating a double standard, which led to the numerous errors favoring the district. However, that would be unfair in the face of the law. Finally, both parties were local to the SRO and the SRO could have easily scheduled a conference with both parties to get clarity on the information that was needed to aid in the interpretation of facts.

FIFTH CAUSE OF ACTION: THE SRO ERRED BY NOT SUPPORING THE PARENTS REQUEST THAT THEIR EXHIBITS SHOULD HAVE BEEN ACCEPTED BY THE IHO AND THAT IS UNFAIRLY DISADVANTAGED A.S. CASE. THE SRO RENDERED THIS DECISION WITH DISREGARD FOR THE USE OF PROPER LEGAL PROCEDURE

97. *"The IHO refused to accept nearly all of our exhibits into evidence (Tr. pp. 56 – 108), preventing the IHO from considering them in his decision and preventing us from using them to question witnesses and use them for our brief.*[14]*"* The SRO Justyn Bates wrongfully prevented admitting any of that evidence (that makes up 45 exhibits) in our appeal.

98. The entire process of proffering exhibits was biased in favor of the Shenendehowa School District and further nearly every exhibit that the parents proffered was not admitted into evidence thus the parents cited the entire portion of the transcript as it relates to the proffering of exhibits (Tr. pp. 56 – 108). The SRO goes on further to say: "Moreover, while impartial hearing rights include the right of both a parent and a district to "present evidence and confront, cross-examine, and compel the attendance of witnesses" (34 CFR § 300.512(a)(2); see 8 NYCRR 200.5(j)(3)(xii)), State regulation requires that an IHO "exclude evidence that he or she determines to be irrelevant, immaterial, unreliable or unduly repetitious" (8 NYCRR 200.5(j)(3)(xii)(c))."

99. The SRO fails to mention that the IHO determined the evidence to be beyond the scope of the hearing (Tr. Pp. 58, 61, 67 - 68) instead citing a generalization from (8 NYCRR

[14] We could spend many pages justifying the exhibits and were not permitted additional space to do so based on correspondence with the Office of State Review. (Correspondence from Nicholas Steinbock-Pratt on 1/20/2017.)

200.5(j)(3)(xii)(c)) rather than the specific course the IHO took to prevent admission of evidence. The nature of the SRO's response is to the extent that the SRO criticizes of the parents appeal only to so conveniently use the very same approach the SRO's own response when the SRO does not have such a page limit.

100. The IHO's determination of the scope of evidence was that any shred of evidence provided by the parents may only be admitted into evidence if it pertained directly to A.S. (Tr. pp. 65 – 67; 69 - 71) More specifically, the document itself must specifically mention A.S.'s name to be admitted (Tr. pp. 65 - 71) or A.S. must be a subject of that specific study referenced in the publication to that extent that he must be a data point or make up the statistic. For example, the parents proffered publications on interventions (known as Early Intensive Behavioral Intervention (EIBI) or Intensive Applied Behavior Analysis (ABA)) that A.S. had been subjected to at Newmeadow but the IHO sustained the defenses objection where the IHO cited that A.S. was not a subject in the study. Where the IHO's position was that such exhibits were beyond the scope of the hearing. However, the IHO so conveniently took in documentary evidence that did not pertain to A.S. (Tr. pp. 550 - 558) that are referred to as IHO Exhibits 1 - 4. The manner in which it was executed was for the IHO to persuade parents into initially making it a joint exhibit. These 2 documents, related to the Developmental Approach by Barry Prizant known as IHO exhibit 1 (Tr. pp. 557) are documents related to an approach that the fall 2016 Tesago Special Education Connections Kindergarten teacher was familiar with as a result of attending seminars given by Barry Prizant, but which the fall 2016 Tesago Special Education Connections Kindergarten Teacher was not credentialed in. However, there were two such witnesses

that had credentials in ABA, known as Board Certified Behavior Analysts (BCBA), but the IHO still refused to admit parent's exhibits and publications on ABA.

101. The SRO goes on further to say that "Consistent with State regulation, a review of the transcript cited by the parents reveals that the parents presented each and every exhibit for the IHO's consideration, that in many instances the district's attorney voiced objections to the exhibits, and the IHO explained the rationale underlying his decision to ultimately sustain the district's objections to preclude the parents' evidence (see Tr. pp. 56-108)." However, again the SRO faults the parents for not being specific in how the IHO prevented evidence from being admitted but again cites the same exact section of the transcript (Tr. pp. 56-108) that the parents cited in their appeal to the SRO. Further, there is no single mention of the IHO's specific rational for not admitting evidence only a reference to (Tr. pp. 56-108).

102. "A review of the same portions of the transcript also reveals that the IHO made considerable efforts to assist the parents throughout their evidentiary submissions by explaining the role of evidence and by indicating that, subject to a proper foundation elicited from a witness, some of the parents' evidence (i.e., articles or publications) might then be entered in the hearing record as evidence (see, e.g., Tr. pp. 56-60, 64-67, 71-72, 92, 97-98)." Here the SRO attempts to not only further justify the IHO's precluding of the parents' evidence but also the SRO attempts to demonstrate that the IHO was assisting the parents in evidentiary submissions rather than state what actually occurred--the IHO created his own list of biased rules for the admission of evidence.

103. Careful examination of the record would reveal that the IHO would not allow admission of the articles or publications proffered under no circumstance. Rather, what was allowed

was that if a witness was familiar with an article or publication they may look at it and prosecution may ask questions that pertain to the articles. But under no circumstance was the witness or the parents allowed to read out loud for the record any information from the publications, not admitted into the record see Generally (Tr. pp. 58 – 71) also see IHO conduct towards R.S. questioning of witnesses with regard to specific proffered exhibits not received into the record by the IHO.

104. Ultimately the IHO and SRO have unfairly disfavored the parents case with regards to both the management needs section and programming section of A.S. IEP.

105. Specifically, A.S. benefits substantially from an intensive ABA (or EIBI, intensive ABA and EIBI are one in the same) program in a full inclusion classroom environment[15]. This precluding of exhibits on the intervention that A.S. received is no different than excluding exhibits of publications on pharmaceuticals that a patient took, for the same ailment that was the subject of study in the publication, citing that the patient was not a test subject in the publication.

106. There is no rational for not admitting the exhibits. At the very least ailments are classified so that proper intervention can be provided. To preclude evidence that shows intervention efficacy is to legally preclude the needed intervention all together in the form of a decision by both the IHO and SRO. I would imagine that when people with some ailment that are denied a needed treatment engage in a legal pursuit that it would be necessary to prove that

[15] To clarify we will define full inclusion to be a typical classroom where the percentage of students with an IEP would be essentially equivalent to the percentage of students at that grade level with an IEP in the community the school district or school serves. Thus, if the IEP rate for the community population of 1st graders is 5% then the number of students in a first grade class of 25 with an IEP would be 1 student but would never exceed 2 students.

some form of treatment has efficacy to establish that they needed it to begin with and also to establish that the other treatments have not been effective.

SIXTH CAUSE OF ACTION: PRECLUDING THE USE OF METHODOLGY IN AN IEP IS TO PRECLUDE A.S. AND OTHER CHILDREN WITH AUTISM THEIR LEGAL RIGHT TO A FAPE—THAT IS PROVIDED BY INTENSIVE ABA INTERVENTION—THAT IDEA IS SUPPOSED TO GUARANTEE. COMMISSIONER ELIA'S PROMULGATES AND SUPPORTS THAT A STUDENT DOES NOT HAVE A RIGHT TO METHODOLOGY ON THEIR IEP. THUS, THE COMMISSIONER OF EDUCATION HAS INTERFERED WITH THE IEP PROCESS OF A.S. AND HAS COMPROMISED HIS WELL BEING.

107. A.S. benefits significantly from an intensive ABA approach when provided in conjunction with typically developing peers without an IEP in a full inclusion environment where the full inclusion environment is delivered for the entire school day. However, Shen has constantly hidden behind a rule where the CSE, including the director, generally claim that schools are not required to list methodology on an IEP's Management Needs Section. Both the IHO and the SRO supported that methodology was not a component of A FAPE. (See SRO Decision pp. 10) "Finally, the IHO conveyed that while "much of the parents' testimony and argument focused on ABA as being the only method to instruct their son, there [was] strong judicial authority in support of the legal proposition that IDEA d[id] not guarantee a right to a particular methodology or personnel" (IHO Decision at p. 16). As such, these matters were "appropriately left within the discretion of the local school authorities provided the method selected provide[d] FAPE" (id.)." Leaving LEAs with

broad methodological latitude or a right to not put methodology at all in the delivering of an IEP to students with ASD would not survive the *Daubert Standard* in court. That is according to https://www.law.cornell.edu/wex/daubert_standard the *Daubert Standard* is defined as follows "Standard used by a trial judge to make a preliminary assessment of whether an expert's scientific testimony is based on reasoning or methodology that is scientifically valid and can properly be applied to the facts at issue. Under this standard, the factors that may be considered in determining whether the methodology is valid are: (1) whether the theory or technique in question can be and has been tested; (2) whether it has been subjected to peer review and publication; (3) its known or potential error rate; (4) the existence and maintenance of standards controlling its operation; and (5) whether it has attracted widespread acceptance within a relevant scientific community." How can Defendant Elia Defend a position that intervention for students with ASD at respective LEAs does not have to be subjected to the Daubert Standard.

108. The SRO upholds the IHO decision that methodology is not required but later on page 13 of the decision states *"Two purposes of the IDEA (20 U.S.C. §§ 1400-1482) are (1) to ensure that students with disabilities have available to them a FAPE that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living; and (2) to ensure that the rights of students with disabilities and parents of such students are protected (20 U.S.C. §§ 1400(d)(1)(A)-(B))"* The SRO goes on further to say "A FAPE is offered to a student when (a) the board of education complies with the procedural requirements set forth in the IDEA, and (b) the IEP developed by its CSE through the IDEA's procedures is reasonably calculated to enable the student to receive educational benefits" However, there are no

known programs, not grounded in ABA, that consistently confer (by universal measures) educational benefits. And while some people might claim there they do confer educational benefits they always fail to provide standardized statistical information on IQ and Vineland Adaptive Behavior scales (VABS) or similar measures of adaptive behavior (measures would include: expressive language, receptive language, communicative skills, self-help skills and social skills). The two measures of intelligence and adaptive behavior are among most important measures of a child with autism. The most important measure to gauge ones ability to be independent in society and their progress in autism is surely a standardized measure of expressive language, an assessment of conversational skills with their typical developing peers and the degree of prompt independence of the student. The ability to independently engage in conversational exchange and apply reason through the use of expressive language is surly the most important measure of a child's future independence in society. This measure is so important because conversational skills is also a general measure of conceptual understanding of a large enough variety of subject areas that are necessary in order to consistently carry out conversational exchanges with ones typically developing peers. There are no guarantees to methodology, such as ABA methodology that could be used to develop these skills and further no guarantees nor accountability of the LEAs to address these areas of development on the IEP decreasing the likelihood that a child with ASD will be able to participate in society as an adult. Further, there are no measures of LEA specific program efficacy on the comprehensive individual or specific programs offered at the schools and thus there is no accountability whatsoever.

109. Consequently, there are sizable portion (more than 70%) of students with ASD that are seriously shortchanged by IDEA where IDEA does not ensure that students with ASD "have available to them a FAPE that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living"

110. Here we argue that this that is set by the Commissioner of Education causes undue and irreparable harm on students with ASD that substantially benefit (typically > 92%) from ABA by not requiring ABA be provided to them in the environment desired if parents so request it. The SRO states (SRO Decision pp. 33) "State regulation and guidance documents define management needs as the "nature and degree to which environmental modifications and human or material resources are required to enable the student to benefit from instruction" (8 NYCRR 200.1(ww)(3)(i)(d); see "Guide to Quality Individualized Education Program (IEP) Development and Implementation," at p. 20, Office of Special Educ. (Dec. 2010), available at http://www.p12.nysed.gov/specialed/publications/iepguidance/IEPguideDec2010.pdf (providing examples of environmental modifications (i.e., consistency in routine, limited visual or auditory distractions, adaptive furniture), human resources (i.e., assistance in locating classes, following schedules, and note taking), and material resources (i.e., instructional materials in alternative formats)))"... "A student's management needs must be developed in accordance with the factors identified in the areas of academic or educational achievement and learning characteristics, social development, and physical development, and reported in the student's IEP (see 8 NYCRR 200.1(ww)(3)(i)(d), 200.4(d)(2)(i))." While the SRO cites these specifics neither the SRO nor the

Commissioner of Education make any effort to establish how they can be accomplished without the use of proven evidence-based methodologies. Rather, these appear to be just objectives with no guidelines for how they are accomplished for specific ailments. This ill-informed approach to not require specific proven approaches to treat students whose educational needs can result in serious future consequences if not addressed renders the tenets in IDEA related to IEP management needs to nothingness leaving too great a latitude to the school districts.

111. Further the SRO goes on to say (SRO Decision pp. 35) "Turning specifically to the question of methodology, the director initially stated that "[w]e do not include methodology in the IEP" (Tr. p. 508).[16] The director also testified that placing a methodology on an IEP "pigeonhole[d] a staff member into only utilizing one very specific tool that may or may not work for the student" and it provides the teacher with "no flexibility to access their professional knowledge" (Tr. pp. 508-09)." The statement from the director should have received criticism from the SRO rather the SRO condones the decision of the director to not include methodology siding with the district that the teachers have sufficient background to help a student with ASD make progress but offers no such proof that they are qualified to do so. Perhaps part of the issue lies in the fact that a degree in special education is not a proof that the teacher can effective educate a child with ASD despite that the SRO does not question how the special education teachers at Shen will be effective in education children with ASD. To accomplish this Shen would have to prove that they are increasing student's IQs, Adaptive Behavior and Expressive Language DQ

[16] She explained that it was not included for a "number of reasons," most significantly because when hiring "professionals to teach and provide services to students, we rely on their expertise and their ability to carry out an IEP" (id.).

(Developmental Quotient), ability to engage in conversational exchange and reduce their prompt dependence consistent with proven methodologies.

112. The SRO goes on further to say (SRO Decision pp. 36) "Generally, a CSE is not required to specify methodology on an IEP, and the precise teaching methodology to be used by a student's teacher is usually a matter to be left to the teacher's discretion—absent evidence that a specific methodology is necessary (Rowley, 458 U.S. at 204; R.B. v. New York City Dep't of Educ., 589 Fed. App'x 572, 575-76 (2d Cir. Oct. 29, 2014); A.S. v. New York City Dep't of Educ., 573 Fed. App'x 63, 66 (2d Cir. July 29, 2014), aff'g 2011 WL 12882793, at *16 (E.D.N.Y. May 26, 2011) (noting the "broad methodological latitude" conferred by the IDEA); K.L. v. New York City Dep't of Educ., 530 Fed. App'x 81, 86 (2d Cir. July 24, 2013); R.E., 694 F.3d at 192-94; M.H., 685 F.3d at 257 (indicating the district's "broad discretion to adopt programs that, in its educational judgment, are most pedagogically effective"); see M.L. v. New York City Dep't of Educ., 2014 WL 1301957, at *12 (S.D.N.Y. Mar. 31, 2014) (finding in favor of a district where the hearing record did not "demonstrate) that [the student] would not be responsive to a different methodology"); but see A.M. v. New York City Dep't of Educ., 845 F.3d 523, 541-45 (2d Cir. 2017) (holding that "when the reports and evaluative materials present at the CSE meeting yield a clear consensus" regarding methodology, absent evidence to the contrary a program that does not recommend the use of that methodology will not be reasonably calculated to enable the student to receive educational benefits))." This statement by the SRO that hearing record did not demonstrate that the student would not be responsive to a different methodology is a fallacy: How can one prove this where there are an infinite number of possible approaches to intervention by virtue of the exponentially increasing number of

combinations one could develop with all the approaches listed. The term coined eclectic intervention or mixed method approach allows for this exponential increase. Further, should a district first try every possible approach on a student that the district has qualifications in for several years only to find out that none were effective and so much time has passed that it may not be possible for the child with ASD to catch up. The more appropriate statement should have been to state that it must be proven that students with the condition of said student do respond well to the methodology provided. Here we argue that it was the case that on August 5, 2016 it was established that A.S. only responded well to ABA through his own experiences and regressed substantially from the Connections Program see (Joint Ex. 1 and Joint Ex. 37), that A.S. incidentally underwent an ABAB reversal " See the Wikipedia Article on single Subject Research (https://en.wikipedia.org/wiki/Single-subject_design): The reversal design is the most powerful of the single-subject research designs showing a strong reversal from baseline ("A") to treatment ("B") and back again." by virtue of the fact that "**A**" he did not receive ABA with neurotypical peers for the entire school day (did not make much progress) then "**B**" received ABA with neurotypical peers (made much progress) then "**A**" ABA was removed and neurotypical peers were removed for the entire school day where A.S. was placed in Tesago Connections Program (substantially regressed) and then "**B**" went back to ABA with neurotypical peers for the entire school day and again made much progress (See Joint Exhibit 1 and Joint Exhibit 37). Second we argue that when the director was asked to provide proof that the Connections Program helped students make gains in cognition or adaptive behavior she could not provide a single statistic stating the she neither had the data nor conducted the tests on the students to get the data (Tr. Pp. 530 -

550)[17]. We find that amusing given that she has been the director for a number of years. Finally, we argue that we have proffered a number of exhibits containing published data on ABA and that it has been shown that ABA is the only methodology proven to be effective for Autism by the American Psychological Association. According to the American Psychological Association (APA) in order to validate a treatment approach to autism it is required to have at least 9 studies involving at least 20 persons from six different sites. EIBI also referred to as Intensive ABA has 22 different studies published over the last 20 years.[18]

113. Limiting the use of an effective technique by preventing the use of any term that is defined to be a methodology is like to deny a patient with many difficulties the very treatment that will enable them to be a productive member of society

114. Why would the Commissioner of Education want to prevent children with ASD access to the intervention that is proven to both increase their IQ and adaptive behavior scale (placing a heavy emphasis on expressive language and conversational skills derived from adaptive behavior which is the demonstration of conversational skills in a variety of settings): the only two measures that indicate whether one can expect to fully recover from their autism. And why would she want to remove the responsibility of the school districts to be required to provide an intervention that would help the ASD students make real progress.

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[17] The director of special education stated to parent during a phone call that she did have much of the individual data (by universal measures of cognition and adaptive behavior) on the students.

[18] EIBI or Intensive ABA is the only validated approach to treating autism that meets the APA's treatment validation definition. See (Parent New Ex. PP time 1:15:00 – 1:16:25).

115. In this sense it can be argued (but certainly not required nor a necessary requirement to validate this cause of action) that the United States Government should be a Plaintiff in this complaint as well, given that is the U.S. Government that ultimately foots the bill for the people with ASD that never become fully independent. Exhibit 14 (N): Are Autism Facts and Statistics Taken from the autism society website at http://www.autism-society.org/what-is/facts-and-statistics/ (8/26/2015). Strikingly you will notice that the United States spends $236 – 262 Billion annually on Autism Services where much of that cost $175 - $196 Billion are in adult services. (Compare this number to the national military budget and you will notice it is nearly half of the $610 billion total annual budget for every aspect of the military. (Ref: https://en.wikipedia.org/wiki/Military_budget_of_the_United_States). The failure of the public school system to adequately address ASD can have a financially devastating impact on the U.S. Government, local governments and state governments.

116. It is necessary to turn students with ASD from consumers of government dollars to earners that can financially contribute to the U.S. Government, local governments and state governments through paying taxes that they otherwise may be unable to pay if they do not get the intervention they need from the public schools.

117. By the NYSED robbing many children with ASD of an appropriate education they are thereby robbing the citizens of this country because providing students with the needed ABA intervention will more likely ensure that they will be independent taxpaying citizens rather than resulting in a serious capital expenditure for the U.S. Government, local governments and state governments because a number of individuals with autism that could have recovered with the needed ABA intervention along with their typically

developing peers effectively functioning as part of the intervention through model behavior. It is well established that early intervention is the most effective approach and it can be reasonably be concluded that if all children with ASD are offered the option ABA until they are recovered as a matter of right will save the U.S. government, local governments and state governments $100 billion annually in the long run despite that more dollars would be invested at the school age level less will have to be funded for their adult lives.

118. In the case A.S. has substantially benefitted from ABA where no other intervention has proven effective for him in learning concepts, acquiring new skills and improving his language and communication skills.

119. A point of confusion also arises when determining what the make up of an ABA methodology entails. Every evidence-based approach in ABA has shown that ABA intervention occurs in two setting and two setting only. One-on-one between student and therapist and the other environment involves the ASD child in normal classroom placements that are mainly made up of other typically developing peers. Nowhere in the literature is a self-contained environment found be an environment where true ABA intervention is provided and further nowhere in the literature is even integrated environment found to be an environment where ABA intervention is provided. The only environment that involves more that one child where ABA is provided is a full inclusion one. Weather a classroom setting or other the true ABA methodology is intended to be provided in an environment that is predominately typically developing children. Thus that environment would have students with an IEP at a percentage that is consistent with the population.

120. The reason is that the typically developing peers are part of the generalization intervention they provide the model behavior only reinforcing appropriate behavior and extinguish inappropriate behavior in a very effective way when supports are provided.

121. There are no full inclusion classrooms that offer ABA in the entire capital region. Rather a child with autism must resort to receive their intervention that might have components of ABA or DTT with several other peers with the same problem in one classroom that also includes typically developing peers. If a child with autism can be educated with their nondisabled peers why is this option of receiving ABA in a full inclusion environment not available.

122. In her Rules and Regulations 8 N.Y.C.R.R. § 200.4(d)(2)(v)(b) the Commissioner of Education engages in on the usage of vague terms e.g. "to the extent practicable", "peer reviewed" and "as appropriate" which allow for broad abuse by LEAs and the SRO to take advantage of the rules and regulations because of their vagueness allowing LEAs to offer unproven models of education to A.S. on his IEP and other children with ASD. Such rules and regulations have permitted Shen to create the failed Connections Program that offer nothing more than an eclectic intervention or mixed method intervention with no proof of efficacy that measures student progress by progress towards lowly set goals rather than universal measures. Much of the rules and regulations regarding the way children with ASD are educated are effectively "Void for Vagueness" as they are not intelligible, cannot be understood by a person of average intelligence, but are rather purposefully unclear to give too great or latitude to LEAs and the SRO. In effect the rules and regulations of the commissioner of education effectively permit LEAs to create unproven programs and is then enforced by the SRO. Using a vague term such as "to the extent practicable" gives

LEAs broad discretion to decide what is practicable and what is not. Whereas one LEA may decide to hire an expert another may decide to use a reductionist approach to argue that they have provided a peer reviewed approach "to the extent practicable". It a term that allows for broad abuse and a lack of quality control in the provision of special education. Invalid state laws give rise to broad disorder within the state with the existence of small local areas of order only allowed by a local standard.

SEVENTH CAUSE OF ACTION: SHEN INTENTIONALLY UNDERREPORTED A.S. ACTUAL PRESENT LEVELS OF PERFORMANCE ON HIS 2016 – 2017 IEP TO JUSTIFY GOALS ON A.S. IEP WHICH A.S. HAD ALREADY ACCMOPLISHED.

123. The SRO erroneously finds that the Present Levels of Performance in A.S. IEP for the 2016 – 2017 school year was not an issue raised in the due process complaint. However, the SRO does acknowledge that "With respect to the annual goals, as noted above, I find that the parents did raise this as an issue in the due process complaint notice"

124. Here the parents argue that if issues are reasonably raised with regards to IEP goals that those issues must be dependent on lower level arguments such as Present Levels. One cannot have a valid argument that IEP goals are inaccurate unless present levels are also invalid.

125. The parents argue that the issues raised with regard to present levels are implied in their raising of issues with the appropriateness of goals. For example, in order to access the appropriateness of goals one would first look to the present levels to make predictions about what goals are appropriate. Review of present levels is the standard used by the Commissioner's Rules and Regulations 8 N.Y.C.R.R. § 200.1(ww)(3)(i) to set IEP goals.

126. Integral to this question of raising issue with the present levels the SRO, like the IHO, erroneously found that the goals set by the district were appropriate. The SRO's initial rational was to simply quote the (IHO Decision pp. 11, 15). But the SRO recognized that it would require further discussion (SRO Decision pp. 18). Inspection of the SRO's referenced section of the IHO Decision reveals that there was nothing in the IHO sections related to goals that even referenced present levels. However, the SRO Decision (SRO Decision pp. 21 – 25) has a rather large section on goals with detailed discussion where there was little the SRO was able to conclude because of the districts meddling in the Preschools input into the IEP.

127. Ultimately, in order to determine if the goals were accurate the SRO necessitated the use of the present levels of performance to make a determination on reasonable goals. The SRO decided in favor of the district that the goals were accurate because the SRO erroneously relied on the Present Levels, while being aware that the parents took issue with the present levels in their request for review, but belligerently ignoring that fact when doing an analysis of the present levels to determine if goals were appropriate. It is surely here, at that moment in the analysis, that the SRO should have recognized that the parents issue with present levels, even though not mentioned specifically in the due process complaint, was validated by the SRO's own approach.

128. How can an SRO consider the decision regarding IEP goals valid and fair when the SRO must use information (present levels) seriously disputed by the parents (by finding a weak legal argument to try and dismiss the complaint about present levels) to make a determination about goals. The SRO recognized the two (goals and present levels) were interdependent measures and surly should have found that such an argument necessitated a

review of the present levels. And even if the SRO neglected to do so it was a seriously unfair approach to use them to reach a decision about the appropriateness of goals. Further, the parents mention in their Memorandum of Law that (See Parents New Exhibit IIII pp. 28) "The Connections Program fails to offer FAPE to A.S: that the goals are not appropriate because the present levels were not appropriate" establishing the link between the goals and the present levels that the SRO should have followed.

129. It is a simple argument that if one reaches a decision on invalid data then their decision must be called into question. It is worth mentioning that the SRO was provided two educational updates on A.S. dated 12/19/2016 and 1/27/2017 (Parents New Ex. QQQ and SSS) in the Parents Request for Review. These educational updates could not have been available during the IHO hearing since the hearing took place during October 2016.

130. And further the SRO states (See SRO Decision pp. 19) "Generally, documentary evidence not presented at an impartial hearing may be considered in an appeal from an IHO's decision only if such additional evidence could not have been offered at the time of the impartial hearing and the evidence is necessary in order to render a decision (see, e.g., Application of a Student with a Disability, Appeal No. 08-030; Application of a Student with a Disability, Appeal No. 08-003; see also 8 NYCRR 279.10(b); L.K. v. Ne. Sch. Dist., 932 F. Supp. 2d 467, 488-89 (S.D.N.Y. 2013) (holding that additional evidence is necessary only if, without such evidence, the SRO is unable to render a decision))." The SRO goes on further to acknowledge the educational updates (*evidence that could not have not been offered at the time of the impartial hearing*) Parents New Ex. QQQ and SSS (SRO Decision pp. 20) but declines to lead any value to them stating in the footnote 28 "The progress during a period post-dating both the June 2016 CSE meeting and the filing

of the due process complaint notice is irrelevant to a prospective determination of whether the goals were appropriate to meet the student's needs as of the time they were developed." The SRO further states (SRO Decision pp. 20) "(the probative value and context of which is unclear) for consideration on appeal (see Req. for Rev. Exs. JJJ; QQQ; SSS; UUU). Although, these proffered documents may not have been available at the time of the impartial hearing, the parents offer no rationale as to why the documents are now necessary to consider to render a decision in this matter"

131. However, the parents would argue that the SRO again forwards an illogical line of reasoning in that the SRO would have been able to ascertain some information about A.S. abilities up to the date of the last disputed IEP because there are limits on the rate of progress that a person can make. For example, research in Autism has shown that the maximum rate of learning that a child with ASD can demonstrate during Early Intensive Behavior Intervention is about 2.2 years (2.2 years is the maximum and 1.7 years is the average for higher functioning children with autism during the first year of 40 hours per week of professional intervention) of progress per year of time when compared to the normal rate of learning for typically developing children over one year (Compare Parents New Ex. F pp. 16 to Parents New Ex. X pp. 5 - 7). Generally, this high learning rate occurs only during the first year of learning when a child with autism is exposed to ABA intervention for the first time at an intensity of 40 hours per week (Compare Parents New Exhibit J pp. 7 with Parents New Ex. R, Parents New Exhibit E pp. 7 - 8) from a professional therapist and then intervention during the remainder of all their waking hours by the parents.

132. Given that A.S. was exposed to ABA for 2 years prior to the parent based intervention the reasonable learning rate to have expected would have been closer to a maximum of 1.8 years of cognitive progress per year.

133. Retrospectively, we could take A.S. 1/27/2017 educational update and make some predictions on where A.S. present levels were on 6/14/2017 227 days or 0.623 years prior. From this data it would be reasonable to conclude that the maximum gain that A.S. would have made over 0.623 years is about ((1.8 age equivalents of learning / year of learning) X 0.623 years = 1.12 years of progress). From this we can conclude that the 1/27/2017 educational update would represent an accurate list of goals for A.S. to achieve by the conclusion of the 2017 school year supporting the both the goals set by the district were not accurate. To place into perspective the difference between the goals set by the school district and the 1/27/2017 educational update represent 2 - 3 years of educational progress (Compare District Ex. 45 pp. 5 to Parents New Exhibit SSS). Despite, the parents allude to this drastic difference in their Request for Review (Parents New Exhibit JJJJ pp. 4) "A.S. has substantially surpassed (Parent New Ex. QQQ; SSS) all the annual goals in his IEP (District Ex. 47) and listed in the decision (IHO Decision pp. 11) and had surpassed them before (Joint Ex.1, Tr. pp. 212 – 213) they were written; they are inappropriate.

EIGHTH CAUSE OF ACTION: THE SHENENDEHOWA CENTRAL SCHOOL DISTRICT COMMITTED A NUMBER OF PROCEDURAL VIOLATIONS IN THE DEVELOPMENT OF A.S. IEP FOR THE 2016 – 2017 SCHOOL YEAR.

134. The SRO dismissed the parents' complaint that the district committed an excessive number of procedural violations that impeded A.S. access to a FAPE in the LRE because the SRO claims that the issue of procedural violations was not raised by the parents in the due process complaint and thus cannot now raise this as an issue (See SRO Decision pp. 17).

135. Here the parents argue first that it is not necessary to use the term procedural violation if the elements of complaint itself are predicated on procedural violations. And second that some of the procedural violations raised in the Request for Review they were not made aware of until after carefully reviewing the material in the hearing. Further, in general it can be argued that no due process complaint can even pass the test of validity if there are no procedural violations that take place during the development of the IEP. How can a parent of any valid due process complaint validly file one that does not depend on procedural violations also occurring?

136. The obvious first argument in any due process complaint is that a parent files one if they truly feel they have no voice with the CSE or CPSE. That in itself is a procedural violation.

137. Every matter brought up in the due process complaint was related to Management Needs Section of the IEP, the LRE placement and the goals. Generally, inaccurate goals and LRE placement require a procedural violation to be valid. Goals are inaccurate because a procedural violation occurred with regards to collecting present level data or in the setting of unusually low goals for a students present levels so Shen can show that the students

achieved the IEP goals as a means to prove the efficacy of a program. LRE placements are inaccurate because procedural violations occurred with regard to filling out forms and also with regard to matching the present LRE of the student.

NINTH CAUSE OF ACTION: THE RULES AND REGULATIONS OF THE COMMISSIONER OF EDUCATION GOVERNING SPECIAL EDUCATION (8 N.Y.C.R.R. § 200) ARE EFFECTIVELY A SET OF RULES AND REGULATIONS THAT THE CALLS FOR "SYSTEMATIC PLANNING OF SEGREGATION OF STUDENTS WITH DISABILITIES--AS THE TERM DISABILITY IS DEFINED BY THE COMMISSIONER OF EDUCATION--INTO SPECIAL CLASSES AWAY FROM THE GENERAL POPULATION OF STUDENTS SO THAT THEY ARE LIKELY TO BE PERMANENTLY DISABLED"

137. Here is it alleged that the rules and regulations of the commissioner of education position schools to place students in a classroom environment that is more restrictive than their Least Restrictive Environment. The rules and regulations are further void for vagueness with regard to both the LRE placement and also the LRE placement to the maximum extent appropriate. As such the Shenendehowa Central School District had denied A.S. a placement in his LRE for the 2016 – 2017 school and denied A.S. a FAPE for the 2016 - 2017 school year. Below are some examples of the language of the Rules and Regulations of the Defendant Elia and the issues behind the language that allow for the segregation of students:

8 N.Y.C.R.R. § 200.6(h),

(h) "Special classes. The following standards shall be used in the provision of special classes for students with disabilities:

(1) A student with a disability shall be placed in a special class for instruction on a daily basis to the extent indicated in the student's individualized education program.

(2) In all cases the size and composition of a class shall be based on the similarity of the individual needs of the students according to:

(i) levels of academic or educational achievement and learning characteristics;

(ii) levels of social development;

(iii) levels of physical development; and

(iv) the management needs of the students in the classroom.

(3) A special class shall be composed of students with disabilities with similar individual needs."

138. Here the Plaintiffs argue that the Commissioner of Education is violating IDEA LRE laws and also Section 504 of the Rehabilitation Act by restricting composition of a class by any factor other than when "nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily" However, Commissioner Elia's rules and regulations 8 N.Y.C.R.R. §§ 200(h)(1 - 3) oppose this explicit rule. These regulations speak to the separation of students with a disability from the general education setting by categorizations. This appears to be a clear application of discrimination by segregation into disability class. These statements are

made in light of the fact that 8 N.Y.C.R.R. § 200.1(cc) provides a definition to the term "least restrictive environment"

8 N.Y.C.R.R. § 200.1 (cc)

"*(cc) Least restrictive environment* means that placement of students with disabilities in special classes, separate schools or other removal from the regular educational environment occurs only when the nature or severity of the disability is such that even with the use of supplementary aids and services, education cannot be satisfactorily achieved. The placement of an individual student with a disability in the least restrictive environment shall:

(1) provide the special education needed by the student;

(2) provide for education of the student to the maximum extent appropriate to the needs of the student with other students who do not have disabilities; and

(3) be as close as possible to the student's home"

139. In writing 8 N.Y.C.R.R. § 200.1 (cc)(2) the commissioner of education has positioned LEAs to potentially engage in "discrimination by segregation" by using a vague phrase "to the maximum extent appropriate" that allow for broad interpretation of the phrase and for the LEAs to set their own local guidelines (whether internal or publicized) to determine when a more restrictive placement is warranted and when it is not. It further permits LEAs to determine if a portion of the school day may be delivered in a more restrictive placement. Because the Commissioner of education has created the opportunity for LEAs to engage in "discrimination by segregation" in determining the LRE placement

the Commissioner is responsible for all acts of "discrimination by segregation" that result directly from 8 N.Y.C.R.R. § 200.1 (cc)(2).

140. The purpose of the IDEA (20 U.S.C. §§ 1400-1482) are (1) to ensure that students with disabilities have available to them a FAPE in the LRE to the maximum extent appropriate that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living; and (2) to ensure that the rights of students with disabilities and parents of such students are protected (20 U.S.C. §§ 1400(d)(1)(A)-(B))

141. It is the rules and the language of the Rules and Regulations (8 N.Y.C.R.R. § 200) that allows so many children with ASD to also suffer "discrimination by segregation" and have their 14th Amendment rights violated. How can a child with ASD expect to be an effective contributor of society and secure "property" when they reach adulthood if they are denied much of their 14th Amendment rights, as a child.

The 14th Amendment states in Section II:

"No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

142. The laws of the Commissioner of Education are made or written in such as way to abridge or deny A.S. with "liberty" now and "property" in the future retrospectively for the 2016 – 2017 school year. where due process of the law is to be governed by the flawed and vague

rules and regulations (8 N.Y.C.R.R. § 200) of the Commissioner of Education make the due process itself systematically flawed if the rules and regulations of the commissioner of education bear any influence on them.

143. Shen denying A.S. with a right to his LRE for the 2016 – 2017 school year and extended school year with the right level of support and the right goals was a denial of A.S. 14th Amendment Rights. If a student with ASD such as A.S. is not educated in a general education classroom with mostly typically developing peers with the right level of support and the right goals then they will not be able to develop basic skills and abilities that are necessary to achieve independence and in turn secure employment and acquire property. Perhaps the most central skills that an ASD student will learn in a general education classroom are "conversational skills" and "adaptability" that can be construed to be inversely related to "prompt dependence" (the more adaptable you are the less prompts you need in general. The more adaptable an individual is the less an external input e.g. prompt will be needed to keep that individual on track. These are the two cornerstones of being able to function in society. It is a self-evident truth that in order to participate in society independently one must be adaptable and conversational. When ones opportunity to develop these two skills effectively are taken away through no action of their own and due process of the law does not support them obtaining the opportunity to do so their "liberty" has been abridged and consequently their "property" has been abridged because of the codependence between liberty and property.

144. For example, an ASD student is known to have a need and opportunity to "generalize" their abilities that is to demonstrate them in a naturalistic setting with the general population of students. By doing so they not only develop conversational skills

(conversational skills are a manifestation of improving communicative (DQ), social skills (DQ), expressive language (DQ) and receptive language (DQ) to a level that allows for independence in society) For an ASD student there is no effective way to develop these skills together when natural opportunities for socializing are not constantly provided and when a facilitator is not provided to assist with the process during those periods when opportunities are more prevalent such as recess and lunch periods. Further there is no effective way to develop conversational skills if an extensive (45 minutes to 1 hour) one-on-one conversational opportunity with a neurotypical peer with facilitator to provide A.S. with scripts and then fade those scripts over time is not provided on a daily basis.

145. In J.T. ON BEHALF OF I.T., Petitioner, v. DUMONT BOARD..., 2009 WL 6435398 "Generalize is defined as "the ability to identify a skill, to perform a skill and to use it across settings. For a skill to be meaningful a student must be able to generalize it and to maintain it."

146. Further, being educated within the general population of students for the entire school day ensures that ASD students will constantly adapt their approach to make progress and be effective enough in a variety of activities that it will allow for their independence and full participation in society and later in the work force when they are of age. ASD students will maintain a desire to be more effective in all that they do by observing and interacting with their peers that are representative the general population of students.

147. It is argued that in order to be an independent participating member of society that a person would need to be able to generalize skills and be versatile in a large enough variety of activities (consistent with the general population of students) that they could be

independent in their participation within society and be able to acquire property through their own income producing efforts.

148. A necessary bridge to accomplish this end would require the effort of a specialist that serves as a therapist in a "normal class" to the child while appearing as an aid to the entire class but would spend a greater amount of time with A.S. and would also help create an environment where the students would be more patient and more willing to socialize with A.S. to help him overcome his social difficulties. See L.B. L.B. and J.B. on behalf of K.B. v. Nebo Sch. Dist., 379 F.3d 966 (10th Cir. 2004)) However, at the kindergarten, first grade and second grade levels the duration should be increased consistent with peer-reviewed approaches 20U.S.C. §§ 1412(a)(1)(A), 1414(d)(1)(A)(i)(II)(aa), 1400(d)(1)(A)).

149. It is further argued that the rules and regulations (8 N.Y.C.R.R. § 200) of the commissioner of education that states that students with similar disabilities are to be educated together further abridges an ASD students right to "liberty" and "property" because they would unquestionably experience reinforcement of inappropriate behavior and learning new inappropriate behaviors from other children with ASD or other behavioral disorders.

150. That a rules or regulation is written that states that ASD students are to be educated together is a rule that does not take into consideration the underlying causes of regression in ASD. It is well documented that children with autism reinforce inappropriate behavior of other children with autism and also teach new inappropriate behaviors to each other. (see L.B., 379 F.3d 966 (10th Cir. 2004) The issue lies in that even having two children with autism in the same classroom provides too many opportunities to engage in

maladaptive and stereotypical behavior. The students themselves both provide positive reinforcement for inappropriate behavior and also teach each other inappropriate behavior that they had not previously learned (See pp. 3 (5th page of report: "Lovaas I.; Journal of Consulting and Clinical Psychology, 1987, 55, 1, 3 - 9"; and generally see L.B., 379 F.3d 966 (10th Cir. 2004)). Consequently, these classrooms both limit the gains a student is capable of and also can serve as a source of further debilitation. Any student that can be educated in a full inclusion or (same as) fully mainstreaming classroom, (where the class make up at all moments of the day is representative of the general population of students in the school district) with the provision of supports has a right to do so under the IDEA. In (L.B., 379 F.3d 966 (10th Cir. 2004)); ("K.B. made very good academic progress at her mainstream preschool with the assistance of her supplementary aide and intensive at-home ABA program. 8 Academically, K.B. was the most advanced child at her private, mainstream preschool, although she still had social deficits. The combination of an intensive ABA program and supplementary aide worked to treat K.B.'s behavioral, social, and linguistic problems, 9 and according to her expert, she was making "impressive gains." Evidence shows that treating these problems *972 was necessary to K.B.'s ability to function in a mainstream school environment.")... ("Evidence presented at the due process hearing shows that autistic children who are not integrated with typical children do not progress. Experts testified that the nature of autism generally, and K.B.'s weaknesses in particular, render a mainstream environment particularly well-suited because such an environment is more likely to increase independence, improve social skills, and increase the chances of future normal functioning."... "In contrast, experts testified that K.B. would not have benefitted from a special education program. Park

View's predominantly disabled student body could have caused K.B. to regress because of the risk that K.B. would have emulated the disabled children's maladaptive behaviors and received insufficient intervention for her own inappropriate behaviors."

151. It is why Ivar Lovaas himself stated in his seminal publication (Lovaas I.; Journal of Consulting and Clinical Psychology, 1987, 55, 1, 3 – 9 pp. 5 (3rd page of publication)) regarding intensive Applied Behavior Analysis ABA also referred to as early intensive behavioral intervention "EIBI" that "Considerable effort was exercised to mainstream subjects in a normal (average and public) preschool placement and to avoid initial placement in special education classes with the detrimental effects of exposure to other autistic children."

152. That was Dr. Ivar Lovaas speaking of placements of autistic children in normal schooling after receiving intensive behavioral intervention in a one-on-one setting in an environment where no other children with autism were present.

TENTH CAUSE OF ACTION: COMMISSIONER ELIA DENYS A.S. A FAPE IN THE LRE FOR THE 2016 – 2017 SCHOOL BY POSITIONING ALL LEAS INCLUDING SHEN TO TAKE ADVANTAGE OF THE VAGUENESS OF THE RULES AND REGULATIONS GOVERNING STUDENTS WITH AN IEP VIA "BROAD INTERPRETATION" OF HER "UNCONSTITUTIONALLY VAGUE" RULES AND REGULATION GOVERNING SPECIAL EDUCATION (8 N.Y.C.R.R. § 200). THE COMMISSIONER OF EDUCATION HAS WRITTEN RULES AND REGULATIONS REGARDING THE PROVISION OF EDUCATION TO STUDENTS WITH AN IEP TO BE SO "VAUGE" AND LACKING OF "EXPLICIT STANDARDS" THAT IT

PERMITTS BROAD INTERPRETATION AND ENABLED SHEN TO DENY A.S. A FAPE IN THE LRE FOR THE 2016 – 2017 SCHOOL YER WHERE A.S. HAS LITTLE IF ANY PROTECTION FROM DUE PROCESS OF THE LAW BECAUSE DUE PROCESS OF THE LAW RELIES ON RULES AND REGULATIONS THAT ARE EFFECTIVELY VOID FOR VAGUENESS AND ARE THEREFORE UNENFORCEABLE BY THE VAGUENESS DOCTRICNE OF THE U.S. CONSTITUTION AND ARE A VIOLATION OF THE IDEA. AS 8 N.Y.C.R.R. § 200 IS A PROOF THAT THERE IS NO LAW, BUT RATHER SUGGESTIONS, GOVERNING THE ASSESSMENT, PLACEMENT, GOALS, USE OF SUPPLEMENTARY AIDS AND SERVICES AND PROVISION OF A FAPE AND ACCOUNTABILITY FOR A STUDENT WITH AN IEP.

153. Indeed, 8 N.Y.C.R.R. § 200 consistently "fails to provide sufficiently explicit standards for those who apply it," and "impermissibly delegates basic policy matters ... for resolution on an ad hoc and subjective basis." For the most pertinent components of special education including: LRE considerations, methodology, peer reviewed approaches, Goals and specifications with regard to the education of persons with Autism.

154. The purpose of the IDEA is to guarantee children with disabilities a free appropriate public education ("FAPE") in the least restrictive environment ("LRE")" and "To ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living." 20 U.S.C.§1400(d)(1)(A). Nothing in rules and regulations (8 N.Y.C.R.R. § 200) of the Commissioner explicitly discusses or provides explicit standards for the

components of recovery and accountability that are necessary to assure students with ASD become both independent and engage in active participation within society. The elements of Commissioner Elia's Rules and Regulations are lacking the following 5 elements of accountability and goal setting on the part of the LEAs:

155. A) Assuring that students are educated with the general population of students by making it a standard where only by the student being excessively disruptive to the general population to such an extent that learning would not be feasible within the general population. However, disruptive behavior within the general population of students would have to be the case when a therapist is provided as a behavioral support providing the proven methodology and there are no limitations on the services that can be provided in any LRE placement.

156. B) Assuring that universal measures of ability including adaptive behavior (measured by DQ) and IQ are the primary means to measure overall progress of a student. And that progress in the general education curriculum is the second means to measure academic progress.

157. C) Assuring that methodology that is proven to yield results by universal measures of IQ and Adaptive Behavior (measured in DQ) is guaranteed.

158. D) Assuring the public that these standards are in place by reporting on LRE classifications of the population of students with an IEP by disability area and broken out by IQ and DQ gains. Showing LRE change rates for every LRE class on the continuum of services and LRE declassification rates for each LRE category. A system of accountability showing when schools are failing in any of the above categories and a system to ensure reports are accurate and real rather than a reductionist approach.

159. E) Making all three of 1) expressive language, 2) conversational ability (measured in the number of peer aged exchanges that a student can consistently demonstrate) and 3) a reduction in prompt dependence to be guaranteed goals on the IEP for a student with ASD.

160. This suit challenges the validity of a State statute on the basis that the rules and regulations (8 N.Y.C.R.R. § 200) fundamentally denies children with ASD a right to access their LRE by use of systematically flawed and vague language that gives school districts so much liberty to decide how to provide special education that taking that liberty not only consistently results in a denial of a FAPE but also the denial of access to the students LRE to the maximum extent appropriate.

161. "Due process vagueness doctrine requires crafting both civil and criminal laws with sufficient clarity to give the person of ordinary intelligence a reasonable opportunity to know what is prohibited and to provide explicit standards for those who apply them." U.S.C.A. Const. Amend. 14.

162. In Kramer v. New York City Bd. of Educ., 715 F.Supp.2d 335 (2010) The District Court, Jack B. Weinstein, Senior District Judge, held that:

163. "The vagueness doctrine requires crafting both civil and criminal laws "with sufficient clarity to give the person of ordinary intelligence a reasonable opportunity to know what is prohibited and to provide explicit standards for those who apply them." Thibodeau, 486 F.3d at 65 (quotation marks omitted); see also, e.g., Interstate Circuit, Inc. v. City of Dallas, 390 U.S. 676, 88 S.Ct. 1298, 20 L.Ed.2d 225 (1968) (invalidating on vagueness grounds civil municipal film licensing ordinance)."

164. "A punitive enactment is unconstitutionally vague when it (1) does not allow a person of ordinary intelligence a reasonable opportunity to know what is prohibited, or (2) lacks explicit standards, thus permitting arbitrary or discriminatory enforcement. See Grayned, 408 U.S. at 108–09, 92 S. \Ct. 2294; see also Farid v. Ellen, 593 F.3d 233, 240 (2d Cir.2010). A statute or rule is inadequate under the second criterion when it "fails to provide sufficiently explicit standards for those who apply it," and "impermissibly delegates basic policy matters ... for resolution on an ad hoc and subjective basis."

165. In her definitions in 8 N.Y.C.R.R. § 200 the Commissioner does not define the term "to the extent practicable" nor the term "peer reviewed" in the context of 8 N.Y.C.R.R. § 200.4(v)(b). In this context these terms are specifically discussed regarding the Special education program and services (8 N.Y.C.R.R. § 200.4)(v)(b) this section speaks to the recommended program stating at:

(8 N.Y.C.R.R. § 200.4)(v)(b)

"The recommended program and services shall, to the extent practicable, be based on peer-reviewed research, and as appropriate indicate:"

166. In her Rules and Regulations 8 N.Y.C.R.R. § 200 the Commissioner of Education relies on the usage of terms such as "to the extent practicable" (Reference) and "peer reviewed" (Reference) allows for broad abuse by LEAs and the SRO to take advantage of the rules and regulations because of their vagueness allowing LEAs to offer unproven models of education to A.S. on his IEP and other children with ASD. Much of the rules and regulations regarding the way children with ASD are educated are effectively "Void for Vagueness" as they are not intelligible, cannot be understood by a person of average

intelligence, but are rather purposefully unclear to give too great a latitude to LEAs and the SRO. In effect the rules and regulations of the commissioner of education effectively permit LEAs to create unproven programs, set improper goals and is then enforced by the SRO. Using a term such as "to the extent practicable" gives LEAs broad discretion to decide what is practicable and what is not. Surely, it can be understood that "to the extent practicable" will depend on the training, qualifications, attention to detail and ability of special education personnel and special education leadership to decide where a line is drawn. Whereas one LEA may decide to hire an expert another with use a reductionist approach to provide a peer reviewed approach. It a term that allows for broad abuse and a lack of quality control in the provision of special education.

167. Because no explicit standard is set for a peer reviewed approach (such as meeting the requirements of the Daubert Standard, or showing a specific IQ or Adaptive behavior improvement these rules are in effect meaningless) and the extent that it should be followed there is in fact no almost no guideline at all here other that giving LEAs full flexibility.

168. Another term that is not clearly defined is the breakdown of "Least restrictive environment" that is the Commissioner Defines "Least restrictive environment" but the provides guidelines that are both vague and inconsistent with the total definition of "Least restrictive environment"

8 N.Y.C.R.R. § 200.1 (cc)

"(cc) Least restrictive environment means that placement of students with disabilities in special classes, separate schools or other removal from the regular educational environment

occurs only when the nature or severity of the disability is such that even with the use of supplementary aids and services, education cannot be satisfactorily achieved. The placement of an individual student with a disability in the least restrictive environment shall:

(1) provide the special education needed by the student;

(2) provide for education of the student to the maximum extent appropriate to the needs of the student with other students who do not have disabilities; and

(3) be as close as possible to the student's home"

169. A careful inspection of this definition yields the following interpretation a "Least restrictive environment" receives the correct definition up to the word "achieved". However, when the Commissioner states "The placement of an individual student with a disability in the least restrictive environment shall:" the rule that follows is not comprehensive enough to ensure the LRE is provided. However, an LEA can follow terms 8 N.Y.C.R.R. §§ 200.1(cc) (1 – 3) but still violate that LRE definition. In fact these requirements even undermine the definition because it does not speak to the explicit standard to ensure the appropriateness of "supplementary aids and services" and does not provide the explicit standard for how to determine "to the maximum extent appropriate" with *appropriate* being emphasized as the key vague term. By not clearly providing the explicit standard for the term to the "maximum extent appropriate" and the explicit standard for "supplementary aids and services" the LEA has full flexibility to make that decision themselves. This undermines the special education system in this state of New York especially since nowhere else in the entire 200 pages of N.Y.C.R.R. § 200 is any explicit standard provided. Due process complaints are generally regarding FAPE, the

LRE or both. Here the LRE term has sufficient vagueness to support that an LEA has full flexibility without oversight from the SEA to make these decisions of placement themselves.

170. The Commissioner does not provide explicit standards for 8 N.Y.C.R.R. § 200.1(ww):

8 N.Y.C.R.R. § 200.1(ww)

"S*pecial education* means specially designed individualized or group instruction or special services or programs, as defined in subdivision 2 of section 4401 of the Education Law, and special transportation, provided at no cost to the parent, to meet the unique needs of students with disabilities.

(1) Such instruction includes but is not limited to that conducted in classrooms, homes, hospitals, institutions and in other settings.

(2) Such instruction includes specially designed instruction in physical education, including adapted physical education.

(3) For the purposes of this definition:

(i) The individual needs of a student shall be determined by a committee on special education in accordance with the provisions of section 200.4 of this Part upon consideration of the present levels of performance and expected learning outcomes of the student. Such individual-need determinations shall provide the basis for written annual goals, direction for the provision of appropriate educational programs and services and development of an individualized education program for the student. The areas to be considered shall include:

(a) *academic achievement, functional performance and learning characteristics* which shall mean the levels of knowledge and development in subject and skill areas, including activities

of daily living, level of intellectual functioning, adaptive behavior, expected rate of progress in acquiring skills and information, and learning style;

(b) *social development* which shall mean the degree and quality of the student's relationships with peers and adults, feelings about self, and social adjustment to school and community environments;

(c) *physical development* which shall mean the degree or quality of the student's motor and sensory development, health, vitality, and physical skills or limitations which pertain to the learning process; and

(d) *management needs* which shall mean the nature of and degree to which environmental modifications and human or material resources are required to enable the student to benefit from instruction. Management needs shall be determined in accordance with the factors identified in each of the three areas described in clauses (a)-(c) of this subparagraph."

171. It is surly in this section 8 N.Y.C.R.R. § 200.1(ww)(3)(i) where both the process of setting and selecting goals and is completely undermined by the Commissioner of Education. The Commissioner has left it up to the CSE to determine which areas are appropriate for goals and what the goals should be. The lack of guaranteed explicit standards results in broad interpretation of this section. The social development section does not have a measurable attribute. That is there is no attribute mentioned in the social development section of 8 N.Y.C.R.R. § 200.1(ww)(3)(i)(b) that can be measured thus it is not possible to construct a social development goal from reading this section. What is of greater concern is that the Commissioner fails to have a requirement for a social development goal for persons with ASD. Since ASD is considered to be primarily a social disorder why

would the Commissioner not provide explicit standards that a social development goals are required and that the goals must meet specific criteria based on a benchmark that is measured by a technically sound instrument that also guarantees setting goals associated with peer relationships. Another goal that must also be required with explicit standards for ASD students in a prompt dependence goal. Every student with ASD must be required to have a goal related to reducing their prompt dependence.

172. Perhaps the most central skills that an ASD student will have an opportunity to learn—especially if the right supports are provided—amongst their neurotypical peers are "conversational skills" and "adaptability" that can be construed to be inversely related to "prompt dependence" (the more adaptable you are the less prompts you need in general. The more adaptable an individual is the less of an external input e.g. prompt will be needed to keep that individual on track.) Conversational ability and a low prompt dependence are the two cornerstones of being able to function independently in society. It is a self-evident truth that in order to participate in society independently one must be adaptable and conversational. When a person with ASD opportunity to develop these two skills effectively are undermined where due process of the law does not guarantee to support their acquisition with explicit standards they are less likely to be independent in society and thus their "liberty" has been abridged and consequently their "property" has been abridged because of the codependence between liberty and property

8 N.Y.C.R.R. § 200.6(K)

"(K) Twelve-month special service and/or program. (1) Eligibility of students for 12-month special services and/or programs. Students shall be considered for 12-month special services and/or programs in accordance with their need to prevent substantial regression, if they are:

(i) students whose management needs are determined to be highly intensive and require a high degree of individualized attention and intervention who are placed in classes in accordance with subparagraph (h)(4)(ii) of this section;

(ii) students with severe multiple disabilities, whose programs consist primarily of habilitation and treatment and are placed in special classes in accordance with subparagraph (h)(4)(iii) of this section;

(iii) students who are recommended for home and hospital instruction whose special education needs are determined to be highly intensive and require a high degree of individualized attention and intervention or who have severe multiple disabilities and require primarily habilitation and treatment;

(iv) students whose needs are so severe that they can be met only in a seven-day residential program; or

(v) students who are not in programs as described in subparagraphs (i) through (iv) of this paragraph during the period from September through June and who, because of their disabilities, exhibit the need for a 12-month special service and/or program provided in a structured learning environment of up to 12 months duration in order to prevent substantial regression as determined by the committee on special education."

173. It is well established that school aged persons with ASD especially children require an extended school year of 12-month special to prevent regression. In 8 N.Y.C.R.R. § 200.6(K) below Defendant Elia does not define substantial regression nor provide an explicit standard to determine if a student is at risk of a substantial regression. Further, there is no specific guidance on twelve-month special services for students with ASD as concluded by examining 8 N.Y.C.R.R. § 200.13 leaving it open to interpretation. There is no explicit standard to ensure the LRE placement in the summer is consistent with the LRE placement during the normal school year. The position LEAs have consistently taken is that the summer placement includes an LRE based on the make up of the student body during the summer that is all disabled persons however, this has already been determined to be a self-contained environment. The LEAs next attempt to state that there are no typically developing peers in the summer so they do not have access to them. However, this statement is false because the LEA could offer a free summer program to typically developing students until it reaches numbers that are sufficient to meet an LRE requirement. Thirdly, there are some parents that place their children in local camp that has planned activities (structured) that generally have a large percentage of typically developing peers. Here the parents ask the school to provide special services to the student at the local camp and the school district generally provide a substantially inadequate duration of services each week because there is no explicit standard by Defendant Elia for them to provide a level of service consistent with the needs of the student. Leaving the twelve-month school year to broad interpretation has resulted in LEAs typically only offering a level of service that is consistent with the school year in a self-contained environment, which is established to cause a regression in any student with

a disability that has an LRE placement that is less restrictive than the LEA's proposed summer placement. The lack of explicit standards for a "twelve-month special service" by the Defendant Eli is a further violation of the "void for vagueness" doctrine in the U.S. constitution unenforceable because it lacks explicit standards and permits broad interpretation.

8 N.Y.C.R.R. § 200.13

200.13 Educational programs for students with autism.

(a) The functioning levels of students with autism, based upon the criteria set forth in section 200.6(h)(2) of this Part, shall govern their individual or small group instruction.

(1) The continuum of special education programs and services as described in section 200.6 of this Part shall be available to students with autism as needed.

(2) The chronological age range of instructional groups serving students with autism shall not exceed 36 months for students under age 16 and shall not be limited for students 16 years of age or older.

(3) The class size for such students shall be determined in accordance with section 200.6(f) and (h) of this Part, provided that the class size of special classrooms composed entirely of students with autism shall be in accordance with section 200.6(h)(4)(ii)(a) of this Part.

(4) Instructional services shall be provided to meet the individual language needs of a student with autism.

(5) To the maximum extent appropriate, instructional provisions shall be instituted for eventual inclusion of students with autism into resource room programs for students with combined disabilities or placement in a regular classroom.

(6) In those instances where a student has been placed in programs containing students with other disabilities, or in a regular class placement, a special education teacher with a background in teaching students with autism shall provide transitional support services in order to assure that the student's special education needs are being met.

(b) The length of the school day for students with autism shall be that set forth in section 175.5 of this Title.

(c) All school districts are required to furnish appropriate educational programs for students with autism from the date they become eligible for a free appropriate public education until they obtain a high school diploma, or until the end of the school year in which they attain their 21st birthday, whichever occurs first.

(d) Provision shall be made for parent counseling and training as defined in section 200.1 (kk) of this Part for the purpose of enabling parents to perform appropriate follow-up intervention activities at home.

(e) Upon application and justification to the commissioner, approval may be granted for variance from special class sizes and the chronological age ranges specified in subdivision (a) of this section.

174. In 8 N.Y.C.R.R. § 200.13 there is no clear standard to apply to the education of persons with autism. The section is written so vaguely one would wonder if the section has any

purpose other than a purpose related to segregation. There is no explicit standard for how to measure their progress for example there is no explicit standard to require 8 N.Y.C.R.R. § 200.6(6)(ii)(x) technically sound instruments such as cognitive tests and behavioral tests, there is no explicit standard to explain what is required of an "appropriate educational program" in 8 N.Y.C.R.R. § 200.13(c) thus positioning and permitting LEAs to create whatever eclectic "mix method" program they desire.

175. IDEA laws regarding providing a FAPE in the LRE to the maximum extent appropriate are highly interdependent on each other. The law has made clear what constitutes the LRE. See Murray v. Montrose County Sch. Dist., 51 F.3d 921, 925–26 (10th Cir.1995). "To that end, 20 U.S.C. § 1412(5)(B) provides a pertinent part:"

176. "To the maximum extent appropriate, children with disabilities ... [must be] educated with children who are not disabled, and ... special classes, separate schooling, or other removal of children with disabilities from the regular educational environment [shall] occur[s] only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily...."

177. However, all too often educators and administrators and state law attempt to distort the true meaning of this law in a version that permits schools to place ASD students with an IEP into an environment that is more restrictive than their true LRE while providing nothing that remotely resembles a FAPE.

178. The Rules and Regulations of the Defendant Elia are in violation of the "Vagueness Doctrine" In American constitutional law, a statute is void for vagueness and unenforceable if it is too vague for the average citizen to understand. There are several reasons a statute may be considered vague; in general, a statute might be called void for

vagueness reasons when an average citizen cannot generally determine what persons are regulated, what conduct is prohibited, or what punishment may be imposed.

179. To summarize the contents of the doctrine, it establishes specific criteria all laws, or any legislation must meet, to qualify as constitutional. Such criteria includes the following:

Law must state explicitly what it mandates, and what is enforceable.

Definitions of potentially vague terms are to be provided

180. The vagueness of the rules and regulations (8 N.Y.C.R.R. § 200) enable LEAs to interpret vague rules and regulations in a variety of ways so as to deny a student with an IEP their LRE and also deny them their FAPE.

181. The LEAs further accomplish this by making false statements and records with no valid evidence of why the student cannot be educated in "regular classes with the use of supplementary aids and services" and why "it cannot be achieved satisfactorily" excepting the manufactured document prepared by the LEA that states this fact. Further the rules and regulations (8 N.Y.C.R.R. § 200) provide no timely assurances to enable a student to be educated in their LRE with the use of supplementary aids and services.

182. Similarly, the rules and regulations of the Commissioner do nothing to ensure a student with ASD receives an appropriate FAPE that would encompass the use of a proven methodology of Applied Behavior Analysis (ABA) that is necessary because there are no other proven methodologies to ensure a student with ASD makes progress.)

183. The central issue of accountability with regards to showing progress by both LRE progression and universal measures of ability including IQ and Adaptive Behavior measured with DQs are necessary to show progress is made otherwise there is no accountability to show that LEAs are making any progress at all because their will be no

way to validate actual progress was made. It is easily feasible for a school district to falsely report that a student has made progress when in reality the student has regressed when not using a universal measure.

184. Indeed, 8 N.Y.C.R.R. § 200 consistently "fails to provide sufficiently explicit standards for those who apply it," and "impermissibly delegates basic policy matters ... for resolution on an ad hoc and subjective basis." For the most pertinent components of special education including: LRE considerations, methodology, peer reviewed approaches, Goals and specifics with regard to the education of persons with Autism.

ELEVENTH CAUSE OF ACTION: SHEN WOULD NOT PLACE CONVERSATIONAL EXCHANGE GOALS NOR GOALS TO A REDUCE A.S. PROMPT DEPENDENCE ON A.S. IEP FOR THE 2017 – 2018 SCHOOL YEAR. RENEE YOUNG'S DENIAL OF THESE SPECIFIC GOALS TO A.S. IS A DENIAL OF A.S. SECTION 504 RIGHTS OF THE REHABILITATION ACT OF 1973. DESPITE A.S. HAVING AN ASD DIAGNOSIS NO USEFUL SOCIAL DEVELOPMENT GOAL WAS PLACED ON A.S. IEP. MANY GOALS FOR THE 2017 – 2018 SCHOOL YEAR ARE INAPPROPRIATE OR NOT BASED ON PRESENT LEVELS OF PERFORMANCE. FURTHER, ALMOST EVERY GOAL IS ACCOMPLISHED WITH THE USE OF A PROMPT—AS THE GOAL IS STATED ON THE IEP-- DRAMATICALLY REDICING THE VALUE OF SUCH A GOAL BECAUSE THE GOAL IS NOT INDEPENDENT OF A PROMPT.

185. When parents met with teachers and staff in a pre IEP meeting it was determined that two relevant goals would be goals to reduce prompt dependence and goals to increase

Conversational Ability. The reduction in prompt dependence goal was thought to increase A.S. independence in difference activities reducing the need for staff input. The conversational goal would accomplish multiple goals including a *social development* goal helping A.S. build relationships with his peers, improve his expressive language and improve his social skills. Naturally, this goal would likely reduce A.S. prompt dependence because conversational ability would enable adults and peers to better use reason with A.S. to explain rules, approaches, concepts and ideas to A.S. Thus, he would better apply reasoning in the appropriate situation reducing the need for a prompt. In a pre IEP meeting that the Elementary CSE Chairperson did not attend the Conversational exchange goal for A.S. was set to 5 conversational exchanges with a peer in A.S. grade/class. A.S. had already been able to engage in 2 conversational exchanges consistently and A.S. had already exceeded 5 conversational exchanges with parents at home on a daily basis so the goal was a reasonable goal to add 2 – 3 more exchanges with A.S. peers.

186. However, Renee Young the Elementary CSE Chairperson refused to place any such goal relating to conversational exchange A.S. IEP. Rather she placed a goal that reads "When given a topic," A.S. (name omitted) "will independently make a comment or ask a question relating to that topic on 3 out of 5 occasions" There are two issues with this goal. First, parents explained that A.S. had already exhibited this goal for about one year it was completely outdated so they are not based on present levels. Secondly, there is no *social development* associated with this goal because social exchanges are not required.

TWELTH CAUSE OF ACTION: FOR THE 2014 – 2015 SCHOOL YEAR SHEN PLACED A.S. AS A PRESCHOOLER AT NEWMEADOW IN AN LRE MORE RESTRICTIVE PLACEMENT THAN HIS ACTUAL LRE FOR MORE THAN 5 MONTHS. SHEN MADE THE PLACEMENT DECISION WITHOUT HAVING INFORMATION ON HOW A.S. WOULD RESPOND TO THE INTEGRATED ENVIRONMENT AT NEWMEADOW. THE PLACEMENT CAUSED DEVELOPMENTAL DAMAGES TO A.S. BECAUSE HE WOULD HAVE SEEN GREATER GAINS IN THE INTEGRATED ENVIRONMENT AND THE EFFECT IS COMPOUNDED DUE TO HIS VERY YOUNG AGE OF LESS THAN 4 AT THE TIME OF THE INITIAL PLACEMENT.

187. A.S. was enrolled full time at Childtime Daycare in Clifton Park since March 2014 and then later enrolled at Newmeadow during the month of October 2014. How could A.S. go from a typical environment to one more restrictive than an integrated environment at Newmeadow without ever being placed in an integrated environment first. This placement decision by Shen was a clear denial of A.S.'s LRE and had early intervention developmental costs to A.S. A.S. had to wait more than 5 months, until he was 4 years and 3 months old, before he could receive ABA intervention with typically developing peers.

THIRTEENTH CAUSE OF ACTION:

FOURTEENTH CAUSE OF ACTION: SHEN FAILED TO OFFER A.S. A FAPE IN HIS LRE BY NOT OFFERING A 2017 SUMMER PROGRAM WITH NEUROTYPICAL PEERS AND SHEN VIOLATED THE IDEA BY OFFERING A.S. A SUBSTANTIALLY INSUFFICIENT AMOUNT OF SPECIAL EDUCATION SUPPORT IN A.S. CAMP SETTING FOR SUMMER 2017. OFFERED SUPPORT TOTALED ONE HOUR EACH WEEK OF SPECIAL EDUCATION SUPPORT IN A.S. CAMP SETTING THAT WAS LOCATED WITHIN THE SCHOOL DISTRICT DURING THE EXTENDED SCHOOL YEAR (ESY) WHERE A.S. QUALIFIED FOR AN ESY. THE OFFERED LEVEL OF SUPPORT OF 1-HOUR PER WEEK IN THE CAMP SETTING COULD NOT HAVE MITIGATED THE RISK OF SUBSTANTIAL REGRESSION AND THUS VIOLATES IDEA.

188. See paragraphs 59 – 62 of this Second Amended Complaint for a detailed history.

FIFTEENTH CAUSE OF ACTION: THE COMMISSIONER OF EDUCATION AND SHEN BOTH DENY A.S. A FAPE WHEN GOALS OF REDUCING PROMPT DEPENDENCE AND INCREASING CONVERSATION ABILITY WITH NEUROTYPICAL PEERS ARE NOT GUARANTEED GOALS ON A.S. IEP OR ANY ASD CHILD'S IEP FOR THAT MATTER. FAILURE TO STATE A NECESSARY GOAL OF A DISABILITY CLASS—EVEN IF THE DEFICIT OF THE DISABILITY CLASS IS IDENTIFIED--IS A FAILURE TO OFFER THAT DISABILITY CLASS A FAPE.

189. The point of the IDEA 20 U.S.C. § 1400(d)(1)(A) is "to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes

special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living" In paragraph 172 of this Second Amended Complaint Plaintiffs demonstrate that social development goals are not required goals by the NYSED on an IEP for a student with ASD. This paragraph further argues that "to be primarily a social disorder why would the Commissioner not provide explicit standards that a social development goals are required and that the goals must meet specific criteria based on a benchmark that is measured by a technically sound instrument that also guarantees setting goals associated with peer relationships. Another goal that must also be required with explicit standards for ASD students in a prompt independence goal."

190. Perhaps the most central skills that an ASD student will have an opportunity to learn—especially if the right supports are provided—amongst their neurotypical peers are "conversational skills" and "adaptability" that can be construed to be inversely related to "prompt dependence" (the more adaptable you are the less prompts you need in general. The more adaptable an individual is the less an external input e.g. prompt will be needed to keep that individual on track.) Conversational ability and a low prompt dependence are the two cornerstones of being able to function in society. It is a self-evident truth that in order to participate in society independently one must be adaptable and conversational.

191. By not having required goals related increasing "conversational exchange", "expressive language" and "reducing prompt dependence" a FAPE is not being provided. The commissioner is in violation of the IDEA when she writes rules and regulations that permit LEAs to violate the Individuals with Disabilities Education Act.

192. Further, by not making such goals required goals the Commissioner of Education violates 20 U.S.C. § 1400(d)(1)(A). Since there are no guaranteed goals related to increasing an ASD child's ability to engage in Conversational exchange and to reduce prompt dependence a FAPE is not provided to A.S. even though the IEP meets the dubious Rules and Regulations of the Defendant Elia (8 N.Y.C.R.R. § 200) it is a violation of IDEA.

SPECIFIC RELIEF SOUGHT

193. Assume jurisdiction over this complaint

194. Order that the Shenendehowa School District is to offer A.S. ABA in a full inclusion classroom that includes one-on-one Discrete Trial Training. The full inclusion classroom will have an IEP rate or percentage consistent with the IEP rate of the first grade student body. If there is another student with an IEP in the classroom the IEP must be of a mild nature unless the percentage of students in the student population with a IEP of more severe nature necessitates more than one such student per class.[19]

[19] Many psychologists and doctors have noted some overlap in the behaviors observed from students with Down Syndrone, Autism, PDD-NOS, PDD, and Fragile-X. The occurrence of autism, PDD and PDD-NOS combined is less than 2%, Down syndrome 0.15% and Fragile-X 0.2%. The sum of all these disorders adds up to less than 2.5%. Thus, there should be no full inclusion class of 25 students that has more than one student with any of the above disorders. Additionally, Attention Deficit Hyperactivity Disorder (ADHD) a behavioral disorder that requires less intervention and has a lower incidence of maladaptive behavior occurs at a rate of 5 – 7% of the population. Thus, no full inclusion classroom of 25 students should have greater than 2 students with ADHD. Further, there is a population of students in any school that have a record of delinquency and a population of students that have a cognitive or language delay. Those students too should not occur at a rate greater than their percentage of the student body for that grade in the full inclusion classroom. The central argument behind full inclusion would be to equally distribute students with behavioral disorders and other students with an IEP throughout the student body to minimize their ability to receive reinforcement for their own inappropriate behavior and maximizing their exposure to model peers.

195. Order that a major component of A.S. intervention will include therapy designed to increase A.S. conversational abilities as A.S. ability to engage in conversation with neurotypical peers. Order that to achieve this end that A.S. engage in conversation play with neurotypical developing peers in a mix of pull-out and push in sessions with a facilitator in a manner described in (see Parents new Exhibit T pp. 4 para. 3 – 4), Specifically, this method employed that the identified child would work one-on-one with typical peers (peers without an IEP generally of similar age (+/- 1 years) or same grade) that are patient and have clear language, one hour per day at five days per week, until A.S. demonstrates sufficient mastery where a second typical peer can be incorporated. The central idea here is that once A.S. can master conversational skills with one other typical peers he will be able to then work on conversational skills with 2 – 4 additional typical peers on an increasing gradient with time/progress be implemented (up to 4 typical peers and A.S., with no atypical peers present) at 5x one-hour per week (see Parents new Exhibit T pp. 4 para. 3 – 4). Generally, it has been shown that it can take 18 months of one-on-one conversational opportunities at while point the child will be able to rapidly engage in conversation with an increasing number of typical peers.

196. Given equitable considerations and the appropriateness of the program Parents have provided to A.S., approve pendency for time R.S. and E.S. spent to deliver an ABA a home-based therapy and educational program to A.S. at a rate of $32.50 per hour approved for 50 hours per week at the expense of the school district. Inflation adjusted to $32.50 per hour for 2016. Order this pendency at the reduced duration if the A.S. attends a private school program where he received an inadequate amount of intervention.

197. If the ABA therapy and educational program delivered to A.S. by R.S. and E.S. is unilateral placement then given equitable considerations retroactively reimburse R.S. and E.S. at a rate of $32.50 per hour, for time spent delivering an intensive ABA a therapy and educational program to A.S., for 50 hours per week at expense of the school district for the failure to provide a FAPE in the LRE.

198. With equitable considerations of Tuition Reimbursement for effort of parents to provide a program to A.S. with No adequate pendency offered by Shen, order Shen or NYSED to retroactively reimburse R.S. and E.S. for delivered home based ABA therapy and educational intervention to A.S. at a rate of $32.50 per hour based on a 50-hour week (less scheduled breaks) totaling 950 hours for the period 8/29/2016 to 2/4/2017 totaling $30,875. See (Parents New Exhibit IIII pp. 17 - 22).

199. With equitable considerations of tuition reimbursement for effort of parents to provide intervention order Shen or the NYSED to reimburse parents for providing A.S. with ABA intervention to supplement his private school where Shen provided no special education services at the rate of $32.50 per hour at 450 hours (for the period 2/8/2017 – 6/24/2017) totaling $14,625.

200. The parents seek that the court overturn the order by the SRO for the CSE to convene within 30 days of the SRO decision dated 4/3/2017 and received in the mail on 4/6/2017.

201. Order that the exhibits proffered by the parents be admitted into evidence. Order that the record is to be reopened.

202. The parents request that the court order the school to provide a supplementary aid that receives ongoing consultant based guidance from a BCBA or is a BCBA) to work with A.S. to apply ABA principles, where that aid would serve as an invisible shadow to the

extent that the aid works with other students in the classroom 50% of the time to help create an environment where A.S. feels more confident to express himself to improve his conversational skills and expressive language as a means to enable A.S. social development. (See Parents new Exhibit T pp. S146 – S149 for a model of how intervention can be provide within the classroom and in pull out therapy sessions that would involve only other neurotypical peers) Here the authors used an intensive ABA program at 35 – 40 hours per week.

203. Similarly, order the Shen to provide A.S. with a program that is 40 hours per week in duration while maintaining his placement in his present classroom that extends the school day (ending the school day at 5:15pm rather than 2:15pm) on each of Monday, Wednesday and Friday) Where discrete trials and social skills training (no other atypical peers present in the same room) would make up 20 of the hours of the 40 hours per week of intervention) Order the following DTT and ABA group therapy be on A.S.'s IEP: small group (2 - 4 students on an increasing gradient with time/progress) conversational exchange intervention at 4 hours per week. Order that remaining 16 hours of discrete trial training periods focus on conversational skills in a one-on-one setting, writing, vocabulary, reading comprehension, math and math word problem aptitude.

204. Order changes in the IEP Management Needs Section and order that an intensive ABA or an EIBI[20] (Early Intensive Behavioral Intervention Program[21]) be provided to A.S. in a

[20]EIBI is a term that is equivalent to intensive ABA so long as child is less than 8 years old.
[21]Include the provision of an intensive ABA program will be provided to A.S. with a Board Certified Behavior Analyst (BCBA) provided by Educational Models, or at a minimum agreeable by the parents, to create a program modeled after Newmeadow for the intensive ABA program (25 hours per week) but in a general education setting and then an additional DTT program (25 hours per week, that will include 10 hours of push in and pull out sessions per week). And that at all times Teachers, aids, therapists and any adults must interact with

general education classroom at an intensity of 40 hours per week, while A.S. maintains his present classroom placement at Arongen but where an afterschool program is incorporated at Arongen as described in paragraph 203.

205. Order that these changes sustain until A.S. has reached an IQ and VABS (or equivalent) both[22] exceeding a standard score of 90 in the IQ and 85 in the VABS. The discrete-trial-room should ensure the privacy of the students receiving the discrete trial from other students unless they are receiving discrete trials concurrently in the same room.[23]

206. Order that all exhibits provided by petitioners be accepted into evidence and be admissible.

207. Order formal measures of IEP success for A.S. by 8 means all at District Expense: 1. The attainment of goals in the standard curriculum or first grade curriculum as based on A.S. newly established present levels of performance. 2. A.S.'s VABS composite score with maladaptive behavior option 3. A.S.'s IQ test with a performance IQ and verbal IQ breakout.[24] 4. By reducing A.S. prompt dependence 5. By A.S. expressive language 6. By the number of conversational exchanges A.S. can engage in with neurotypical peers that

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A.S. in the same way as typical peers, so an not to segregate nor draw attention, nor treat differently A.S. from any other child other than the distribution of time spent with him. Thus, execution must be done so A.S. cannot be distinguished from a typical peer based on the manner the adult interacts with A.S. *see* (Parent New Ex. T pp. 4 par. 4; Tr. pp. 1072 – 1076)

[22] The organization administering any IQ and VABS tests will be selected by the parents at the District's expense.

[23]There shall be no moment in time where A.S. will be in a room or in a sectioned off space or working in a group or sitting at a table, or receiving any intervention or therapy that is not atleast 50% typically developing peers excepting when he is the only child in the room.

[24]The person administering the VABS and IQ test must have a crystal clear voice that is to be 1 SD above average (as determined by a technically sound instrument and independent evaluation) in articulation and expressive language. An independent organization agreed to by the parent will execute the evaluations

never had an IEP in his grade 7. By duration of sustained language exchange with typically developing peers 8. By duration of direct play with typically developing peers.

208. Order that the parents be reimbursed for legal efforts and expenses as a prevailing party for $29,500 (up to 5/2/2017) based on 560 hours at $50 per hour of effort and expenses. Further, order that parents be reimbursed for legal efforts and expenses associated with legal efforts since 5/2/2017 at the same rate of $50 per hour approximating at an additional 200 hours.

209. Further Order that the district's placement of A.S. in a self contained classroom at Newmeadow from the period October 2014 – March 2015 and it's failure to initially provide A.S. with a placement in an integrated classroom when there was no data to support that A.S. could not be successful with an initial placement in the integrated classroom at Newmeadow for the 2014 – 2015 school year was a failure to provide A.S. with a FAPE for the period in the self-contained classroom placement and that the placement caused developmental damages because of the early-aged opportunities for developmental gains A.S. lost out on had he been initially placed in an integrated environment.

210. Order to that Methodology is now permissible to be written in a student's IEP in the State of New York. Further, order Defendant Elia to modify her rules and regulations (8 N.Y.C.R.R. § 200)

211. Order that a comprehensive intensive ABA methodology in a student's LRE is now a matter of right for children in the State of New York with ASD (based on the criteria of ASD classification on this date 5/9/2017) to have on their IEP.

212. Order that when there is an IEP dispute that has an open due process complaint proceeding or associated appeal a parent has the right to deliver a parent based education and intervention that will be considered unilateral placement where parents are not required to sign any document that forfeits their right to reimbursement for their efforts (where reimbursement is warranted in situations where it is proven that the schools placement was a failure to offer a FAPE in the LRE and the parent based placement was resulted in gains). Order that parents will not be required to fill out an IHIP. Further Order Defendant Elia to create a plan, form and set of guidelines called the IEP Parent-delivered Unilateral Placement (IEPPUP) that is an option for any Parent engaged in a due process proceeding or subsequent appeals. Required that this plan will be considered a unilateral placement where the parent is required to provide quarterly updates as part of the proceedings. The guidelines would be similar to an IHIP but will be different in that the school district is no longer involved in the approval of the plan and the parents no longer forfeit their right for reimbursement for their efforts, but the school district is still entitled to receive quarterly updates.

213. Order that a BCBA can provide intervention in any public school setting to A.S. even if the BCBA does not have a teaching license but passes a background check.

214. Order the Shenendehowa Central School District be required to disclose to the public IQ (as a Cognitive Standard Score (SS) and VABS (As a composite score and by subcategories of Communication, Expressive Language, Receptive Language, Social, statistical data (as a 4 year average encompassing the 3 prior years) for students with autism at Pre K, K, and the most recent 3 years (for all students in 10th grade this would yield statistics for their 8th through 10th grade and then also their Kindergarten and Pre K

data) providing data (providing n = number students, M the mean and SD the standard deviation) in a manner consistent with the publication (Parents New Ex. E Table 2 and Table 3). Require both aggregate data and data and by grouping LRE classifications according to, Self Contained All Day, Self Contained Part Day, Integrated All Day, regular classroom (includes Cotaught Class) Also require a 4 year average encompassing the 3 prior years (for an LRE placement at a grade level e.g. such as the IQ, IQ change and SD displayed as a 4 year average for the LRE placement at each grade) statistical gains of IQ and VABS for children with Autism at Shen by program and also the declassification rates and LRE placement shift rates (for every LRE classification Shen has e.g. 3/10 shift one LRE placement up or down each year,; after 2 years, after 3 years, after 5 years and after 10 years as this will inform parents on the likelihood of an LRE shift after 1 year, 2 years, 3 years 5 years and 10 years for a starting at a particular LRE placement) on a yearly basis and for a 4 year average for students with autism. Similarly, Order Defendant Elia to require all school districts in the state of New York to publish the same data. The First Table is an example for how to report the IQ and VABS (broken out by subcategory with 4 year average reported)

I. Cognitive and VABS Data

A. Aggregate

B. By Grouping LRE Classification breakout

a. For Students whose initial Kindergarten placement was Separate Schooling

b. For Students whose initial Kindergarten placement was Self-Contained (Full Day)

c. For Students whose initial Kindergarten placement was Self-Contained (Part Day)

d. For Students whose initial Kindergarten placement was Integrated Class

e. For Students whose initial Kindergarten placement was Cotaught Full Sized Class

f. For Students whose initial Kindergarten placement was Normal placement with services

Table 1

Measure		PreK2 - Grade 3			Grade 4 - 6			Grade 7 – 9			Grade 10 -12		
	Assessment	n	M	SD	n	M	SD	n	M	SD	n	M	SD
Cognitive (SS)	PreK2												
	K												
	Gx - 2												
	Gx - 1												
	Current year - Gx												
Communication (DQ)	PreK2												
	K												
	Gx-1												
	Gx-2												
	Gx												
Social (DQ)	PreK2												

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Composite (DQ) PreK2

K

Gx - 2

Gx - 1

Current year – Gx

PreK2 – Year of Preschool that precedes Kindergarten

II. LRE Placements Reported for

A. Aggregate

B. By Grouping LRE Classification breakout

a. For Students whose initial Kindergarten placement was Separate Schooling

b. For Students whose initial Kindergarten placement was Self-Contained (Full Day)

c. For Students whose initial Kindergarten placement was Self-Contained (Part Day)

d. For Students whose initial Kindergarten placement was Integrated Class

e. For Students whose initial Kindergarten Placement was Cotaught Full Sized Class

f. For Students whose initial Kindergarten placement was Normal placement with services

Table 2

9^{th} – 12^{th} Grade (4 year average) (n =)

LRE Placement ASD Pre K1 PreK2 K 1 2 3 4 5 6 7 8 9 10 11 12

Separate Schooling

Self-Contained (Full Day)

Self-Contained (Part Day)

Integrated (≤ 50% of students with an IEP)

Cotaught Full Sized Class (≤ 20% students with an IEP; ≤ 2 ASD students)

Normal Placement with services

Unilateral Placement

Parent Based Education

6^{th} – 8^{th} Grade (3 year average) (n =)

LRE Placement Pre K1 PreK2 K 1 2 3 4 5 6 7 8

Separate Schooling

Self-Contained (Full Day)

Self-Contained (Part Day)

Integrated (≤ 50% of students with an IEP)

Cotaught Full Sized Class (≤ 20% students with an IEP; ≤ 2 ASD students)

Normal Placement with services

Unilateral Placement

Parent Based Education

3^{rd} – 5^{th} Grade (3 year average) (n =)

LRE Placement ASD PreK1 PreK2 K 1 2 3 4 5

Separate Schooling

Self-Contained (Full Day)

Self-Contained (Part Day)

Integrated (< 50% of students with an IEP)

Cotaught Full Sized Class (≤ 20% students with an IEP; ≤ 2 ASD students)

Normal Placement with services

Unilateral Placement

Parent Based Education

PreK – 2nd Grade (4 year average) (n =)

LRE Placement ASD Pre K1 PreK2 K 1 2 3 4

Separate Schooling

Self-Contained (Full Day)

Self-Contained (Part Day)

Integrated (≤ 50% of students with an IEP)

Cotaught Full Sized Class (≤ 20% students with an IEP; ≤ 2 ASD students)

Normal Placement with services

Unilateral Placement

Parent Based Education

215. Order Shen Director of Special Education to provide data to public and continue to collect data on IQ gains, Adaptive Behavior Gains (through universal measure), LRE placement changes, and declassification gains for the entire Shenendehowa Central School District Broken Down by School, Grade Level and program.

216. Order Defendant Elia to rewrite and promulgate 8 N.Y.C.R.R. § 200 within 30 days to address the following matters where the new law below shall supersede all other state laws and where the modification of the specific sections within 8 N.Y.C.R.R. § 200 that

are stated below will also result in an internally consistent 8 N.Y.C.R.R. § 200 such that the changes incorporated into one section of 8 N.Y.C.R.R. § 200 will have the effect of resulting in the modification of any related section within 8 N.Y.C.R.R. § 200 even if they are not stated herein. As an example, much of the proposed changes reference 8 N.Y.C.R.R. § 200.1. However, it all cases it will also require a change to 8 N.Y.C.R.R. § 200.4 or other subsection to achieve an internally consistent 8 N.Y.C.R.R. § 200:

Regarding Placement and the Least Restrictive Environment

217. Order Defendant Elia to delete 8 N.Y.C.R.R. §§ 200.1 (cc)(1 - 2) and replace as follows: (cc)(1) "guarantee ASD students supplementary aids and services that are trained in the principles of ABA and are overseen by a Board Certified Behavioral Analyst and that there are no limitations on the services that can be provided in any LRE placement"; (cc)(2) "guarantee that ASD are placed in a classroom that is primarily (atleast 80%) neurotypical peers unless learning is not feasible in said classroom where feasibility challenges must meet the guidelines set below."

"If an ASD student has been excessively disruptive for 6 consecutive weeks the required standard to determine if learning is not feasible in the classroom is as follows: First It must be demonstrated that the following 6 guidelines were met where an impartial BCBA—at School District Expense--may monitor the child for an entire school days to both establish that the guidelines were met and learning was not feasible in the classroom 1) The ASD student received ABA intervention in the classroom and received Discrete Trial Training towards relevant classroom material or social skills (overseen by a BCBA) for atleast 1.5 hours each day 2) All classroom personnel had received ABA training 3) Lunch AIDS,

Recess AIDS and Monitors that have any interaction with the ASD child received ABA training, from a BCBA, related to effectively communicating with the ASD child and effectively facilitating communication between the ASD child and other children in recess areas and lunch areas 4) the ASD child is not being bullied, is bing treated fairly and communicated with by ABA principles by all staff 5) when a substitute teacher is present or if a new teacher or staff member joins the class there is a probationary period of atleast 1 month where LRE placement change cannot be considered. 6) An IEP meeting has occurred with the parents present, BCBA present and all other classroom staff present to discuss any recent changes to the student's program, classroom, and relationship with peers."

Regarding the Provision of the Recommended Program

218. Order Defendant Elia to rewrite (8 N.Y.C.R.R. § 200.4)(d)(2)(v)(b) by replacing it with "The recommended program and services shall be consistent with a single peer reviewed evidence-based research and further, the recommended program for children with ASD must be Applied Behavior Analysis (ABA) that included Discrete Trial Training (DTT) and as appropriate indicate:"

Regarding the setting of Goals on an IEP

219. Order Defendant Elia to rewrite: 8 N.Y.C.R.R. § 200.1(ww)(3)(i)(b) as follows: "*social development* which shall mean the i) the ability of the student to engage in a one-on-one and group conversation--measured by number of conversational exchanges (where a conversational exchange must meet four requirements to be counted: A. Each student on

both sides of the conversation must state atleast 5 words in a back and fourth exchange directly with the student to be counted as one exchange B. The exchanges on both sides are evaluated to be comprehensible C. there is no change in conversation partner and the conversation must stay on topic D. The conversation must be generalized across a variety of conversation topics and variety of specific conversation content[25])—exclusively with neurotypical peers that do not have an IEP both with and without prompts ii) the ability of the student to participate in all aspects of the school day in the same manner as students without an IEP in the absence of prompts as measured by both the reduction in the number of prompts and percent reduction of prompts the student receives to participate in all aspects of the school day including in class assignments and tests where both measures are required. Because ASD is a neurodevelopmental disorder characterized by deficits in social communication and social interaction an ASD student must have social development goals related to conversational ability and prompt dependence. The conversational ability goal must have two measures the ability to engage in conversation exchange with neurotypical peers that do not have an IEP both with scripting and prompts and without scripting nor prompts both measures must be established. Further, the ASD student will have the option of having goals in every section

Regarding the Management Needs Section on an IEP

220. Order Defendant Elia to rewrite: 8 N.Y.C.R.R. § 200.1(ww)(3)(i)(d) as follows "*management needs* which shall mean the nature of and degree to which environmental

[25] Conversation content refers to the types of statements made in conversation and includes: likes, dislikes, relations to past experiences, relations to past events, relations to immediate experiences, descriptions, opinions, requests, suggestions, spontaneous comments, compliments, encouragement, responses to refusal statements, invitations, requests to participate, appropriate initiating statements, appropriate topic change statements and informational statements.

modifications and human or material resources are required to enable the student to benefit from instruction. Management needs shall be determined in accordance with the factors identified in each of the three areas described in clauses (a)-(c) of this subparagraph. Because ABA and DTT is an established methodology to improve the adaptive behavior and intellectual functioning of persons with ASD all persons with ASD must have ABA and DTT placed in their management needs section of their IEP"

Regarding Substantial Regression

221. Order Defendant Elia to rewrite: 8 N.Y.C.R.R. § 200.1(aaa) as follows: "Substantial regression means a student's inability to maintain two or more developmental levels, as they are defined in this section, due to a loss of skill or knowledge that occurs during the 75 day period between the last day of the prior school year (typically about June 20) and the first day of the current normal school year (typically about September 5) of such severity as to require a period of review of greater than 15 days of school (3 calendar weeks) at the beginning of the school year to reestablish and maintain IEP goals and objectives mastered at the end of the previous school year. Developmental levels shall include: 1) Expressive language 2) conversational ability 3) Vocabulary 4) Mathematics 5) Math word problems aptitude 6) reading comprehension 7) hand writing 8) writing 9) Prompt dependence 10) Receptive language 11) Appropriate Group Behavior 12) Independent (Free of Prompts) Completion of Assignments 13) Completion of Assignments with Prompts 14) Ability to follow directions 15) Cognition 16) Communication Skills

Regarding twelve-month school year

222. Order Defendant Elia to incorporate following sections into: 8 N.Y.C.R.R. § 200.6(K) as follows add 8 N.Y.C.R.R. § 200.6(K)(vi) "Any student that meets the definition of substantial regression in 8 N.Y.C.R.R. § 200.1(aaa) on the conclusion of the 20th school day of the current or the prior school year or shall be guaranteed a twelve-month school year"; add 8 N.Y.C.R.R. § 200.6(K)(vii) "If the parent had requested a twelve-month school year in the prior year and it is established that on the 20th school day of the school year that the student had a substantial regression by the definition of substantial regression in 8 N.Y.C.R.R. § 200.1(aaa) that student is automatically eligible for an after school program during the present school year in the student's LRE or in a one-on-one capacity if the student had an ASD classification. In the case for an ASD student the after school program must be one-on-one. The student shall be offered two hours of after school program each week for each developmental level in substantial regression up to a maximum of 14 hours of after school program each week" add 8 N.Y.C.R.R. § 200.6(K)(viii) "The twelve-month school year must be offered in the students LRE for the prior school year. If the ASD student is not guaranteed the same LRE placement (same ratio of neurotypical peers to atypical peers) in the summer months of the twelve-month program the parent may also elect to enroll their child in a local camp that is primarily located within the boundaries of the school district of attendance where the school district shall be responsible to provide IEP services at the camp that are consistent with the IEP services provided in the summer program at the school"

Regarding Present Levels of Performance

223. Order Defendant Elia to incorporate into: 8 N.Y.C.R.R. § 200.1(ww)(3)(i) the following definition for present levels of performance "*present levels of performance* means the measurable elements of a students performance that may include measures of the following 1) Expressive language measured as part of a Vineland Adaptive Behavior Scale 2) conversational ability measured by the number of conversational exchanges a student can consistently engage in with a atleast 3 neurotypical peers with out an IEP in their grade where conversational exchange meets four requirements (A. Each student on both sides of the conversation must state atleast 5 words in a back and fourth exchange directly with the student to be counted as one exchange B. The exchanges on both sides are evaluated to be comprehensible C. there is no change in conversation partner and the conversation must stay on topic D. The conversation must be generalized across a variety of conversation topics and variety of specific conversation content) 3) Vocabulary measured to the New York State general education standard for the relevant grade 4) Mathematics measured to the New York State general education standard for the relevant grade 5) Math word problems aptitude measured to the New York State general education standard for the relevant grade 6) reading comprehension measured to the New York State general education standard for the relevant grade 7) hand writing measured by nationally used method 8) writing measured to the New York State general education standard for the relevant grade 9) Prompt dependence – measured by the number of prompts necessary to enable a students active participation in respective school periods such as gym, art, computer lab, one time events and activities and the completion of in class assignments. Prompts are not counted in instances when a student asks for specific assistance for

material the student does not understand. But if the teacher walks away and the student asks for the same help twice for the same problem during the same assignment that will consider a prompt albeit, requested by the student. Further prompts are not counted in instances that a student is engaged in an activity or assignment but fails to make progress or is slowly making progress and direction is successfully provided (should the same directions need to be provided again for the same issue in the same assignment or activity that will be considered a prompt because it represents a specific instance where a student could make progress but relapsed shortly thereafter) to improve progress. Additionally, for routine activities and assignments if a student consistently needs an additional direction to complete assignments or carry out activities because of not knowing protocols that are used 3 or more times a week that will be considered a prompt. Also, the prompt is factored when it is used for a student that has gotten confused on which problem or part of the assignment they are working on, or when it is used to keep the student on track and engaged in an activity or to make a transition from one activity to another when atleast 80% of students have begun to make a transition. 10) Receptive language measured as part of a Vineland Adaptive Behavior Scale 11) Appropriate Group Behavior – measured by teacher assessment of student workings in groups consisting of 4 – 7 12) Independent (Free of Prompts) Completion of Assignments 13) Completion of Assignments with Prompts 14) Ability to follow directions – measured by the number of times directions are provided on average to complete individual tasks 15) Cognition measured as part of an IQ test 16) Communication Skills measured as part of a Vineland Adaptive Behavior Scale.

Present levels of performance must incorporate the abilities the student exhibits at home. In instances where parents claim the students progress at home is significantly advanced to

the progress and abilities the student demonstrates at their school the parent will have the opportunity to demonstrate the student's present levels are consistent with the parent progress report. In those cases where the student's present levels are demonstrated to be more advanced at home than the school the school must use the parent progress report. Similarly, the parent may challenge the present levels reported at the school if the student fails to demonstrate a similar ability at home. In those instances the school must also demonstrate to the parent that the student's present levels are consistent with what the school has reported. Both parents and school personnel get two attempts on different days to demonstrate the student's present levels are different than reported. The same will be said of the progress towards goals as the student's present levels for the IEP of one school year should be equivalent to the student's progress towards goals in the prior school year."

Regarding the Setting and Attainment of IEP Goals

224. Order Defendant Elia to incorporate into: 8 N.Y.C.R.R. § 200.4(d)(2)(iii) the following "The IEP for students with ASD must incorporate goals in every measurable developmental level area *where levels are measured according to paragraph 223 of this Second Amended Complaint*. The developmental levels include: 1) Expressive language 2) conversational ability 3) Vocabulary 4) Mathematics 5) Math word problems aptitude 6) reading comprehension 7) hand writing 8) writing 9) Prompt dependence 10) Receptive language 11) Appropriate Group Behavior 12) Independent (Free of Prompts) Completion of Assignments 13) Completion of Assignments with Prompts 14) Ability to follow directions 15) Cognition 16) Communication Skills. In cases where the student does not show a deficit the goal will be consistent with the expectations of the general education

curriculum for that developmental area. Further, there must be two measures of every goal one that does not allow for prompts and one that does. The caveat being goals related to the reduction of prompt dependence. Further, goals must provide definitions for any term, word or group of words that can be perceived to be subjective. For example, if a goal uses the term "adult support" it must have a definition to understand the context of adult support in the establishment of the goal, as this will ensure that there is no subjective conjecturing into the degree of assistance the adult support provides to achieve the goals. "

225. Order Shen to immediately add conversational goals and prompt independence goals A.S. IEP to read as follows:

Annual Goal: Conversational Exchange: A.S. will engage in 5 back and fourth conversational exchanges (without adult participation nor assistance) in a one-on-one context with atleast 3 different neurotypical peers without an IEP in the first grade. 100% success in 3 out of 5 sessions.

Annual Goal: Prompt Independence: "A.S. will independently complete in class assignments with a 75% reduction in prompts in every setting. Appropriate Prompt fading techniques will be used to achieve this goal 80% success in 4 out of 5 occasions"

226. Order Shen to have a second set of identical goals for A.S. as shown in his current IEP but the goals must be measured in the absence of prompts.

227. Order Shen to incorporate the following Related Services into A.S. IEP for the 2017 – 2018 school year and extended school year: Conversational Exchange: Small Group (2:1) 4X Weekly, 45 min. The makeup of the group shall be 1 facilitator that is trained by a BCBA or is a BCBA and a neurotypical peer never having an IEP that has the qualities of a clear voice, being patient for A.S. to speak, respectful of A.S. where 3 different peers

should be used at similar frequencies. 3 of 4 sessions must be completed prior to the start of the first recess. All sessions must occur on different days of the week. There must be a Monday, Tuesday, and Friday session.

228. Order Shen to deliver A.S. additional support of an additional 1 hour per day during the 2018 and 2019 extended schools year for failing to deliver intervention to A.S. during the summer of 2017.

229. Order Shen to deliver additional support of 3 additional hours per day at 3 days per week on Monday, Wednesday and Friday to A.S. after school hours from 2:15pm – 5:15pm Discrete Trail Training (DTT) one-on-one by a certified teacher that can establish excellent rapport with A.S. as judged by parent for 2 full school years to make up for the substantial regression that A.S. experienced from the lack of requested intervention this summer.

230. Declare that Elementary CSE Chairperson Renee Young denying A.S. conversation related goals was breaking NYS laws and is a section 504 of the rehabilitation act violation

231. Order Shen to immediately incorporate "Applied Behavior Analysis" and "Discrete Trial Training" into the management needs section of A.S. IEP.

232. Order that all requested changes to 8 N.Y.C.R.R. § 200 in this submission immediately apply to Shen.

Respectfully Submitted

Second Amended Submission January 22, 2018

s/ E.S. *Pro Se* and R.S. *Pro Se* on behalf of A.S.

Motherandfatherobochild@gmail.com

SHENENDEHOWA CENTRAL SCHOOL DISTRICT

STATE OF NEW YORK : COUNTY OF SARATOGA

IN THE MATTER OF THE IMPARTIAL HEARING BY E.S. & R.S. FOR A.S.

PETITIONER,

AGAINST

SHENENDEHOWA CENTRAL SCHOOL DISTRICT,
REPRESENTED BY MS. SUSAN T. JOHNS, ESQ.
FERRARA FIORENZA PC

RESPONDENT,

BEFORE

GEORGE KANDILAKIS
IMPARTIAL HEARING OFFICER
December 30, 2016

Preliminary Statement

Petitioner [the parent] appeal the decision of the Committee on Special Education [CSE] of the Shenendehowa Central School District for the 2016-2017 School year.

The parents believe that their child benefits from an applied behavioral analysis [ABA] environment provided by a Board Certified analyst with a special education degree. The parents also believe, that without providing their child with that environment, there is a high likelihood of he would not be successful nor be able to recover from his autism disorder. [T pp 17-19]

The District believes that the Individual educational program [IEP] developed on June 14, 2016, was reasonably calculated for the child to make educational progress within the CSE's recommended placement. The child is turning six years of age and is now compulsory age for kindergarten. The child is not attending any school program at the moment. [T pp 15-17]

Prior History

While the parents were living in Pennsylvania, the family pediatrician recommended that a referral be made for special education services. The Early Intervention Program of Delaware County, Bryn Mar, PA conducted an evaluation on or about August 2012 when he was diagnosed as a child with developmental delays and qualified for special education services. [D-3] According to the parents, their child never received services in Pennsylvania because they moved to the Albany area. The Albany County Early Intervention Services reevaluated the child and determined that speech/language therapy and early intervention teacher [SEIT] would to be provided. The child received services from October to November 2012. The services were discontinued when the child moved to his grandparents home in the Ukraine. On February 25, 2014, the parents requested special education services through the Committee on Preschool Special Education. Consent to evaluate was given on May 14,

2014. The child was three years three months old at the time. [D-3, D-4]

Access Therapy Group conducted an occupational therapy evaluation [5-16-14] and a psychological evaluation [5-23-14]. A medical statement of child in childcare was completed on [2-29-14]. The evaluation summarized that the child's cognitive ability was mildly delayed; his attention span was short and he required frequent repetition and visual clues. His adaptive skills were mildly to moderately delayed and he required adult support with self care tasks. Significant social emotional delays were noted especially in initiating and reciprocating social interactions. He made minimal eye contact and was self directed and easily agitated in public places, throwing himself on the ground when frustrated. [D-6]

The occupational therapy evaluation suggested that he may have some sensory issues, difficulty focusing and interacting with peers. A followup evaluation was recommended due to his inability to communicate with the evaluator in the English language. [D-8]

In the preschool summary report, it was noted that the child required frequent prompts to complete tasks and required a great deal of structure. Improvement was noted in his ADL skills. The parents reported two languages are spoken in the home. [D-7]

On June 11, 2014, the parent attended a CPSE meeting which was to make its initial eligibility determination and the provisions for special education services for the 2014-2015 year. The child was identified as a preschool student with a disability and provided with SEIT for 2 [60 min.] sessions per week and occupational therapy for 2 [30 min.] sessions per week. The goals were to focus on: improving his attention span and following directions; to calm and organize his body in order to participate in activities; to respond to the presence of others through verbal and non verbal means; to use toys in a purposeful and appropriate manner; to participate in associative play. [D-11]

On June 17, 2014, the parents brought their child to the Developmental Behavioral Pediatrics Unit. In the letter, it was recommended that the CPSE consider a diagnosis of autism spectrum

disorder in their planning for the child. They recommended intensive intervention of 25 hours per week, low student/teacher ratio, a family component and opportunities for interaction with typically developing peers, data collection and a highly structured program with limited distractions. It was also recommended the use of ABA intervention that focuses on developmental, social and language skills and a component of functional communications training to improve communication skills. Examples of different model programs were the Denner model, TEACCH, SCERTS and the DIR model Each approach would focus on the child's social communication, developmental skills curriculum skills. [D-12]

On August 5, 2014, an IEP program report indicated that the child could: label objects [inconsistently]; complete the bathroom routine with less assistance; make eye contact [limited]; point to an object; follow directions 25% of the time, was independent transitioning between activities; respond to his name 10% of the time; follow classroom routines with the use of modeling, verbal, visual and physical prompts. His behavior in the daycare setting where he received his special education support was described as his having difficulty sitting and attending to group type of activities. [D-13, D-14]

The CPSE conducted its annual review on August 13, 2014, where a continuation of his current program and placement was agreed upon by the parties [SEIT 1-1, 5 [60] min. sessions weekly, occupational therapy 1-1, 2 [30 min.] sessions per week]. Goals would continue as stated in the June 11, 2014 IEP. [D-15, D-16]

A speech and language evaluation was conducted on September 20, 2014 and noted that Russian was the primary language spoken at home. The evaluator concluded that though the child's voice and oral motor skills were within normal limits, his articulation and intelligibility skills were significantly delayed. [D-17, D-18]

A CPSE meeting was reconvened on September 24, 2014 to consider a change of placement and program. The New Meadow Preschool program was selected and was to begin on October 1, 2014 in a special class [12:1+2] with occupational therapy ind. 2 [30 min.] sessions

per week, speech and language therapy ind. 4 [30 min.] session per week. The ESY services would be implemented in the daycare setting. The rationale for the change was that the child's ability to communicate was well below average; he lacked communication intent; exhibited articulation errors and appears to be disengaged in the classroom setting and required multiple verbal and physical prompts to participate throughout his day. Goals in his new setting were: improve his attention span and following directions; improve articulation and phonological speech; improve listening, understanding, expression language skills; calm and organize his body to participate in activities; respond to others using verbal and non verbal behavior; use toys in a purposeful and appropriate manner; participate in associative play. [D-79, D-20, D-21]

An amendment was made to the IEP on January 7, 2015 to include standardized assessments to collect information regarding their child's progress. [D-22]

The CPSE met again on March 25, 2015 and continued the existing classification, but changed the program from the self contained classroom where he received ABA training to an integrated setting at New Meadow. His special education program would be integrated into the general education class. Special education services would continue. The rationale for the move was a noticeable change in his attention span, language skills, fine motor and play skills. He appeared to produce more language and enjoyed interacting with other students. However, he would require adult support in the transition from the self contained placement to the general education class. Goals essentially continued from his previous IEP. [D-24, D-25, D-26]

On May 8, 2015, the parents were provided with notice that a CPSE to CSE meeting would be held on May 19, 2015 for the purpose of transitioning from preschool to a school age program. A draft IEP was provided to the parents for the 2015-2016 school with a provision for an ESY [7-6-15 to 8-14-15]. [D-27]

The classification was changed to Autism. The child would continue to require extra support to remain on task and would need repetition.

Expressive and receptive language continue to be areas of deficit. It was believed that he would benefit from a small structured setting. The draft IEP amended the speech and language services to 3 ind. [30 min.] sessions per month and 6 group [30 min.] session per months, occupational therapy would be provided individually 3 [30 min.] sessions per month. The new placement would be the Connections program at the Tesago Elementary school. His program would be a special education class [12:1+1] and a consultant teacher for direct and indirect services in the kindergarten class. Goals would focus on: improving his attention span; answer yes, no and what questions; increase his vocabulary; use scissors correctly; identify letters in the alphabet; identify numbers 1-10 and write his name.

The parent testified that she attended an open house at Tesago Elementary School on or about September 1st or 3rd and met with Ms. Paradise, her son's classroom teacher. The parent also testified that her son was a very young kindergarten student. [T pp 224, 1398-1399]

The parent testified that she began to see that her son was having difficulty transitioning during the second week of school. He refused to get on the bus and when in the school office, he would fall to the floor. Around early October, her son's resistance to going to school became more frequent. He became more aggressive at home and to manage his behavior in public. [T pp 1401-1403]

Ms. Paradise, the special education teacher testified that the child was one of four students in her self contained class. He received his ELA and mathematics instruction in the Connections program. Social skills training were also part of his special education program. By mid October, the child could walk independently in the halls; hang up his backpack in his bin space, place his binder in his bin space and follow his daily schedule. Where he did not interact with his peers in September, he began to interact with them during choice time [free time]. His tardiness, she believed impacted his classroom performance because it disrupted his routine. His Behavioral Progress Chart for the period September 7 to November 16, 2015 indicated that the child attended 39 out of 47 possible days. Behaviors noted during that period indicate he was not following

directions [3], producing little work [3], needing 1-1 [2]. staying in his seat [1] [and throwing a toy [1]. [D-38, T pp 215-216]

The parents filed a Due Process Complaint dated October 20, 2015. The nature of the problem stated was a decline in his level of engagement for activities, eye contact with peers, his clarity of speech and more resistant at home and poor behavior in public. Their solution was to reclassify their son as a preschooler because he lacked the readiness for kindergarten. He would return to New Meadow for the remainder of the 2015-2016 school year where he had attended through the CPSE. [D-31]

On October 13, 2015, the parents received notice of CSE meeting to be held on October 22, 2015. [D-34]

Ms. Paradise prepared a summary of her observations and assessments. She described his progress as his being independent to follow the routines of his class; sit appropriately for a story in library; trace letters using dotted lines; sit at a table and wait for directions; echo sounds and words in reading class; transition from one activity to another; count to 5; choose the appropriate picture on the daily weather chart and select the proper clothing for the daily weather. She believed that his being bilingual was a barrier to his making greater progress. It was determined that the staff would visit New Meadow and observe the program and consult with the New Meadow staff. [D-30, D-34, T pp 220-224]

A CSE meeting was requested by the parents and was held on October 22, 2015. The CSE again recommended the Connection program and kindergarten with consultant teacher services, speech and language therapy both group and individual, and occupational therapy both individual and group. [D-32]

The parents submitted a Due Process Complaint on November 10, 2015. They described the nature of the problem as being similar to the previous Due Process Complaint. The tardiness reported by Ms. Paradise was reiterated by the parent. The parent explained that her son's tardiness was do to his resistance at home with his ADL skills. The parent believed because the environment at Tesago Elementary School not "totally inclusive" it was a factor in his inappropriate behaviors. She also believed

that the staff's lack of reaction to his "breakdowns demonstrate there is no procedure to respond to such a [situation]". [D-37] Ms. Paradise testified that the child was adjusting to his new school, new teachers and new students. She did not observe any decline in his level of engagement; his level of frustration; his completing of his assignments nor was there any significant change in his behavior from September to November. [T pp 230-333, 336]

The IEP was revised to reflect a change of placement to the New Meadow Preschool Program. The starting date was November 20, 2016. The parents would withhold their son from a kindergarten enrollment. This would be a unilateral placement on the part of the parents, however, he would receive special education in the form of a daily resource room for [30 min.] per week and the services of speech and language therapy ind./group for 3/2 [30 min.] sessions per week and occupational therapy both ind./group 1-1 for [30 min.] sessions per week. The child's special education goals would focus on: recognizing the upper/lower case letters of the alphabet; will identify numbers 1-10; will count to 10 with a 1-1 correspondence; will follow a one step directive; will answer yes, no and what questions; will increase vocabulary knowledge; will use scissors correctly and will correctly write his name. [D-33]

Upon the child's return to New Meadow, his behavior indicated he had difficulty with the transition to his new environment. He was placed in the Bridge program on or about December 4, 2015. His discrete trial teaching were presented by Ms. J. Yanazzo, an ABA provider. Observation and recorded data was maintained from December 17, 2015 to June 22, 2016. Various behaviors were noted during that period. There were at least 17 instances where he was distracted or showed poor attention span during the activity for some of the time. Echololia was noted approximately 7 times. His being over stimulated was noted approximately 10 times. [D-40]

Speech therapy data collection from December 2, 2015 to June 23, 2016 was collected by Ms. Posporelis, New Meadow speech/language therapist. His goals were: to answer yes, no and what questions with 80

% accuracy; to increase vocabulary using pictures in ten different categories with 80 % accuracy. Her data indicated that the child had great difficulty with the goal for answering yes, no and what questions. He achieved 80% on 7 of 42 trials; he achieved 70% 7 out of 42 trials; he achieved 60% 5 times and the remainder ranged from 0-50%. He was more successful with the concept of using pictures to label different categories. On a range of 80 % to 100% correct responses, he achieved 13 correct responses out of 33 opportunities. In 6 instances, he achieved 70% accuracy. In 60 instances, he achieved 60% accuracy. [D-41]

The occupational therapist provided individual and group services both in the classroom and in the therapy room. Data was collected from December 13, 2015 to June 23, 2016. Goals were: to use the scissors correctly and to write his name. Over the course of the abbreviated school year, the child attended approximately 48 sessions. The activities included the use of both fine and gross motor skills. The progress the child made was depended on his ability to follow directions; the number of visual and verbal prompts required to complete the task; his impulsive behavior and his physical motor strength. The data revealed that there was no progressive pattern of improvement in the previous identified areas, rather he was inconsistent during his occupational therapy sessions. The data indicated that the child was impulsive in approaching a task approximately 7 times; he required prompts approximately 13 times and demonstrated gross or fine motor weakness in his writing task and in body movement activities approximately 15 times. However, he did better tracing letters, but he was not able to write them independently. [D-42]

The child's attendance was generally satisfactory. [D-43]

The parents were sent notice on May 26, 2016 CSE meeting for the purpose of conducting its annual review. A draft IEP was provided. Attendance for the June 14, 2016 meeting would include: Ms. Mylod, chairperson, Ms. Young, academic administrator, Ms. Reynolds, psychologist, Ms. Paradise, special education teacher, Ms. Fuschino, occupational therapist, Ms. Warren, New Meadow general education teacher, Ms. Capel, New Meadow occupational therapist and

Ms. Posporelis, New Meadow speech and language therapist.

Findings and Facts

The CSE met on June 14, 2016 and developed an IEP for the 2016-2017 school year. The classification of a child with autism is not in dispute nor is the child's placement in the general education kindergarten class. [T p 1208]. The child's placement in the self contained program [Connections] is being contested by the parents who preferred an AM and PM kindergarten program with special education services [ABA]. [T pp 1260, 1315]

The CSE recommended the child be placed in the Tesago Elementary School as a kindergarten eligible student. His placement would be in the general education kindergarten in the morning with his special education program in the afternoon. The placement in the special education class [12:1] also included support services of speech/language therapy 6 [30 min.] session per month in the therapy room and 3 [30 min.] session per month in the classroom. Occupational therapy individual/group 6 [30 min.] sessions per month would be provided. Provisions were made for parent training as well.

The IEP's **present level of performance for academic, functional and learning characteristics** were developed by the New Meadow Preschool staff where he had previously attended. Through the use of staff observations, data collection and assessments, the child's strengths/needs were noted as: significant delays in articulation and receptive/expressive language; a short attention span; could produce 1-4 word phrases; using pictures was able to label an activity; peer interaction and pragmatic language were limited. Due to his very limited language use, any formal cognitive assessment previously administered should be viewed with caution.

His **social development** has been hampered by his limited expressive language skills. He requires adult support and modeling to initiate social interactions with peers. His social skills are delayed,

though he has shown an interest in interacting with peers.

His **physical development** shows a delay in both fine and gross motor areas, which hamper his ability to use writing tools and maintain a stable position. He continues to require repetition and a multi sensory approach to write his letters. He is easily distracted and lacks the organization ability to stabilize his immediate environment to complete a task.

His **management** needs can best be addressed by modeling an appropriate interaction; use prompting and modeling to support expressive language and general learning activities; provide a structured environment and routines to create a predicable learning space; provide for individual instruction and the use of the 3 step compliance approach [request, model and assist]. Instructions in all areas will need to be modified in order to address his academic, social and physical needs.

To achieve this child's ability to progress in both the kindergarten and Connections special education program, annual goals were developed. They included; following one step direction; identify numbers 1-20 in random order; describe the action in a presented picture; will repeat 3-4 word sentences using intelligible speech; when shown different emotions, will identify the correct emotion; will engage in cooperative play; will legibly form 20/26 letters and will complete a 3 step motor activity.

Statutory Background

A FAPE is offered to a student when [a] the board of education complies with the procedural requirement set forth in the IDEA, and [b] the IEP developed by the CSE through the IDEA's procedures is **reasonably calculated to enable the student to receive educational benefits** [Rowley, 458 U.S. at 206-07; Cerra v. Pawling Cent. Sch. Dist., 427 F. 3rd 186,192 [2nd Cir. 2005]] While school districts are required to comply with all IDEA procedures, not all procedural errors render an IEP legally inadequate under the IDEA [A.C. v. Bd. of Education., 553 F. 3rd. 165, 172

[2nd Cir. 2009; Grim v. Rhinebeck Cent. Sch. Dist., 346 F. 3d 377, 381[2nd Cir. 2003; Perricelli v. Carmel Cent. Sch. Dist., 2007 WL 465211, at *10 [S.D.N.Y. Feb 9, 2007]] Under IDEA, if a procedural violation is alleged, an administrative officer may find that a student did not receive FAPE only if the procedural inadequacies [a] **impeded the student's right to a FAPE. [b] significantly impede the parents' opportunity to participate in the decision making process regarding the provision of a FAPE to the student, or [c] caused a deprivation of educational benefits** [20 U.S.C. 1415 [f] [3] [E] [iii]; 34 C.F.R. 300.513 [a] [2]; 8 NYCRR 200.5 [j] [4] [ii]; E.H. v. Bd. of Educ., 2008 WL 3930028, at *7 [N.D.N.Y. Aug. 21, 2008; Matrejek v. Brewster Cent. Sch. Dist., 471 F. Supp. 2d 415, 419 [S.D.N.Y. 2007]

The IDEA directs that , in general, an impartial hearing officer's decision must be made on substantive grounds based on a determination of whether the student received a FAPE [20 U.S. C. 1415 [f] [3] [E] [i]. A school district offers a FAPE "**by providing personalized instruction with sufficient support services to permit the child to benefit educationally from that instruction**" [Rowley, 458 U.S. at 203]. However, the "**IDEA does not itself articulate any specific level of educational benefits that must be provided through the IEP**" [Walczak v. Florida Union Free Sch. Dist. 142 F. 3d 119, 130 [2d Cir. 1998]; see Rowley, 458 U.S. at 189]. **The statue ensures and "appropriate" education, "not one that provides everything that might be thought desirable by loving parents**" [Walczak, 142 F.3d at 132, quoting Tucker v. Bay Shore, 873 F.2d 563,567 [2d Cir. 1989]; see Grim 346 F.3d at 379. **Additionally, school districts are not required to "maximize" the potential of students with disabilities** [Rowley, 458 U.S. at 189, 199;Grim, 346 F.3d at 379; Walczak, 142 F.3d. at 132]. **Nonetheless, a school district must provide "an IEP that is "likely to produce progress, not regression", and....affords the student with an opportunity greater than mere trivial advancement"** [Cerra, 427 F.3d at 195, quoting Walczak, 142 F.3d at 130; see P. v. Newington Bd. of Education, 546 F.3d 111,118-119 [2d Cir.

2008]; Perricelli, 2007 WL 465211,at * 15]. The IEP must "reasonably calculated to provide some "meaningful benefit" [Mrs. B. v. Milford Bd. of Educ.. 103 F.3d 1114. 1120 [2d Cir. 1997]; see Rowley, 458 U.S. at 192]. The student's recommended program must also be provided in the least restrictive environment [LRE] [20 U.S.C. 1412 [a] [5] [A]; 34 C.F.R. 300.114 [a] [2] [i], 300.116 [a] [2]; 8 NYCRR 200.1 [cc], 200.6 [a] [1]; see Newington, 546 F. 3d at 114; Gagliardo v. Arlington Cent. Sch. Dist., 489 F.3d 105, 108 [2d Cir. 2007]; Walczak, 142 F.3d at 132; E.G. v. City Sch. Dist. of New Rochelle, 606 F. Supp. 2d 384, 388 [S.D.N.Y. 2009]; Patskin v. Bd. of Educ., 583 F. Supp. 2d 422, 428 [W.D.N.Y. 2008]

An appropriate educational program begins with an IEP that accurately reflects the results of evaluations to identify the student's needs [34 C.F.R. 300.220 [a] [1]; 8 NYCRR 200.4 [d] [2] [i], establishes annual goals related to those needs [34 C.F.R. 300.320 [a] [2]; 8 NYCRR 200.4 [d] [2] [iii], and provides for the use of appropriate special education services [34 C.F.R. 300.320 [a] [4]: 8 NYCRR 200.4 [d] [2] [v]; see Application of the Dep't of Educ., Appeal No. 07-018; Application of a Child with a Disability, Appeal No. 06-059. Subsequent to its development, an IEP must be properly implemented [8 NYCRR 200.4 [e] [7]

Discussion and Decision

First and foremost, I find no procedural violations on part of the District. Under IDEA, if a procedural violation is alleged, a hearing officer may find a student did not receive FAPE. The parents were given ongoing "opportunities to participate in the decision making process regarding the provisions of a FAPE" for their child. They attended all CPSE and CSE meetings, contributed to the development of the IEP. [T p 416] Had an opportunity to visit Tesago Elementary School and meet with their child's special education teacher prior to his attending the Connections program. [T p 2241] They attended a parent teacher conference. [T p 228] They influenced the CSE in adding an ABA specialist to provide training and support to the Connections program. [T pp 23-24, 342-342, 485, D-49]

To address the matter of personalized instruction with sufficient support services to benefit educationally from that instruction, I reviewed the information provided the CSE to develop an IEP that was "reasonably calculated to enable the student to receive educational benefits".

The child's dual placement in the general education kindergarten and the Connections program satisfies the Rowley requirement. The kindergarten program offers the child with an opportunity to participate in a program with his general education peers. The kindergarten class consisted of 14 students, 5 of whom were students with disabilities. To support the integration of students with disabilities, two teacher aides were provided. [T p 115]. The teacher aides would assist the students with disabilities generalize the academic and social skills taught in the Connection Program. The placement in the kindergarten class provides the child with exposure to peers who demonstrate appropriate behavior. This placement satisfies the least restrictive requirement [LRE] of IDEA.

An appropriate educational program begins with an IEP which accurately reflects the result of evaluation to identify the student's needs, establishes annual goals and short term instructional objectives related to those needs and provides for the use of appropriate special education services. [Application of a Child with a Disability, Appeal no 04-046], [Application of a Child with a disability, Appeal no 02-014] School districts may use a variety of assessment techniques such as criterion-referenced tests, other test, or any combination thereof to determine the student's present level of performance and areas of need. [34 CFI Part 300, appendix A, Section 1, Question 1]

Standardized evaluations, in this instance, provided limited information. [T1033-1034] The CSE relied on the New Meadow assessments which included but were not limited to data collection and analysis, observations and other assessments, all which provided input into the present level of performance and the development of the IEP goals. [T pp 479, 775-776, 850, 1049-1050, 1151]

School districts are not required to "maximize" the potential of students with disabilities, nonetheless, a school district must provide an

IEP that is likely to produce progress, not regression and affords the student with an opportunity greater than mere trivial advancement.

To address the above mentioned objective, the child would receive specialized instruction in the Connections program. The child's short attention span and distractibility interferes with his ability to learn, thereby the Connections program provides the best environment for direct instruction. [T pp 593-596, 609-610] The core academic subjects of math, reading and writing would be addressed in that setting. Discrete trial training would be implemented using the child's goals as the focal point. [T p 125] ABA techniques would be utilized in the classroom as well as strategies from the National Autism Center. [T pp 140, 158, 183]

The parents concerns with the use of ABA in the classroom should be alleviated by the use of an ABA specialist, who holds BCBA credentials as well as the special education teacher holding a certificate for discrete trial training. [T p 164-165] Ms. Yanazzo, New Meadow BCBA specialist testified that the child's greatest gains were made in his use of pragmatic language and social skills. [T pp 1037, 1129] She testified that the child's progress would take a long time because of the nature of his disability. [T p 1081] Cognitively, he is a slow learner [T pp 1129, 1133] He had yet to show consistency in his acquisition of reading skills. [T pp 1137-1138] The IEP goals are related to his needs and address them specifically, I believe they are "reasonably calculated" to produce progress.

Personalized instruction must be provided with sufficient support services to address his articulation, receptive and expressive deficits. [T pp 593-596] The general goal for therapy is to increase the child's functional communication skills. Therapy would be provided in the therapy room and in his classroom. [T pp 593-596, 1158-1159] The speech therapist is also part of the social skills training program, offered to student in the Connections program. [T pp 925-926] The social skills training focuses on feelings, coping skills and social problem solving. All of which the child has needs in these areas. [T pp 1070-1071, 1120, 1128]

Occupational therapy services are necessary because of this child's fine and gross motor deficits. These deficits impact his writing skills and activities involving gross motor skills. [D-42]

As previously stated, the child is now of compulsory school age. His parents testified that they are home schooling him. [T pp 1172-1173] Their first request was to continue their son at New Meadow as a school age student. Mr. McKenzie, New Meadow administrator testified that they are not licensed to offer a school age program. [T p 851] So that option cannot be considered. The second request was to replicate the New Meadows program at Tesago Elementary School. [T pp 1315-1316] I can only conclude that the CSE has integrated man of the requests into the kindergarten and Connections program. As a CSE in developing the IEP is not required to "maximize" the potential of students, I find that the IEP developed for the 2016-2017 school year to be appropriate because of the likelihood it will produce progress.

Finally, much of the parents' testimony and argument focused on ABA as being the only method to instruct their son, there is strong judicial authority in support of the legal proposition that IDEA does not guarantee a right to a particular methodology or personnel and this is a matter appropriately left within the discretion of the local school authorities provided the method selected provides FAPE. [Wall v. Mattituck-Cutchogue Sch. Dist., 24 IDELR 1162 [E.D.N.Y. 1996] [Joshua A. by Jorge A. v. Rocklin Unified Sch. Dist., 49 IDELR 249 [E.D. Cal. 2008], aff'd, 52 IDELR 64 [9th Cir. 2009] [New York City Dep't of Educ. v. V.S. by D.S., 57 IDELR 77 [E.D.N.Y. 2011] [Board of Educ. of the E. Islip Union Free Sch. Dist., 5 ECLRP 30 [SEA NY 2007] [Board of Educ. of New York City, 5 ECLRP 71 [SEA NY 2007]

The parent's appeal is dismissed.

It is further ordered, that should the parents choose not to appeal this decision to the State Education Department's State review officer, that the District and the parents develop a plan with the necessary supports to allow for the child's smooth transition to the program as outline in the IEP.

Appeal to a State review officer [SRO] of the State Education Department, [1] Any party aggrieved by the findings of fact and the decisions of the impartial hearing officer rendered in accordance with subdivision [j] of [CR Part 200.5] may appeal to the State review officer of the State Education Department. Such a review shall be initiated and conducted in accordance with the provisions of Part 279 of this Title. [2] The State review officer must ensure that, no later than 30 days after the receipt of a request for a review, a final decision is reached and a copy of the written decision.....is mailed to each of the parties, except that the SRO may grant specific extensions of time beyond the periods set out in this paragraph at the request of either party. [3] The written decision of the SRO shall be final, provided that either party may seek judicial review by means of a proceeding pursuant to article 4 of the Civil Practice Law and Rules or 20 U.S.C. section 1415. [CR Part 200.5 [k]

The pendency status of the child during these proceedings is the last agreed upon IEP or if applying for initial admission to a public school, shall be placed in the public school program until all such proceedings have been completed. [CR Part 200.5 [m]

George Kandilakis,
Impartial Hearing Officer
December 30, 2015

Rule 4(a)(6) of the Federal Rules of Appellate Procedure States

> **"(6) Reopening the Time to File an Appeal.** The district court may reopen the time to file an appeal for a period of 14 days after the date when its order to reopen is entered, but only if all the following conditions are satisfied:
>
> (A) the court finds that the moving party did not receive notice under Federal Rule of Civil Procedure 77(d) of the entry of the judgment or order sought to be appealed within 21 days after entry;
>
> (B) the motion is filed within 180 days after the judgment or order is entered or within 14 days after the moving party receives notice under Federal Rule of Civil Procedure 77(d) of the entry, whichever is earlier; and
>
> (C) the court finds that no party would be prejudiced."

Rule 26(c) of the Federal Rules of Appellate Procedure States

> **"(c) Additional Time after Certain Kinds of Service.** When a party may or must act within a specified time after being served, 3 days are added after the period would otherwise expire under Rule 26(a), unless the paper is delivered on the date of service stated in the proof of service. For purposes of this Rule 26(c), a paper that is served

electronically is treated as delivered on the date of service stated in the proof of service."

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Long-Term Outcome for Children With Autism Who Received Early Intensive Behavioral Treatment

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After a very intensive behavioral intervention, an experimental group of 19 preschool-age children with autism achieved less restrictive school placements and higher IQs than did a control group of 19 similar children by age 7 (Lovaas, 1987). The present study followed-up this finding by assessing subjects at a mean age of 11.5 years. Results showed that the experimental group preserved its gains over the control group. The 9 experimental subjects who had achieved the best outcomes at age 7 received particularly extensive evaluations indicating that 8 of them were indistinguishable from average children on tests of intelligence and adaptive behavior. Thus, behavioral treatment may produce long-lasting and significant gains for many young children with autism.

Infantile autism is a condition marked by severe impairment in intellectual, social, and emotional functioning. Its onset occurs in infancy, and the prognosis appears to be extremely poor (Lotter, 1978). For example, in the longest prospective follow-up study with a sound methodological design, Rutter (1970) found that only 1 of 64 subjects with autism (fewer than 2%) could be considered free of clinically significant problems by adulthood, as evidenced by holding a job, living independently, and maintaining an active and age-appropriate social life. The remaining subjects showed numerous dysfunctions, such as marked oddities in behavior, social isolation, and florid psychopathology. The majority of subjects required supervised living conditions.

Professionals have attempted a wide variety of interventions in an effort to help children with autism. For many years, no scientific evidence showed that any of these interventions brightened the children's long-term prognosis (DeMyer et al., 1981). How-

This study was supported by Grant No. MH-11440 from the National Institute of Mental Health. The study was based on a dissertation submitted to the University of California, Los Angeles, Department of Psychology, in partial fulfillment of the requirements for the doctoral degree. The authors express their deep appreciation to the many students at UCLA who served as therapists and helped to make this study possible. Special thanks to Bruce Baker and Duane Buhrmester, who helped in the design of this study. Requests for reprints of this article, copies of the Clinical Rating Scale, or additional information about this study should be sent to O. Ivar Lovaas, 405 Hilgard Ave., UCLA, Department of Psychology, Los Angeles, CA 90024-1563.

ever, since the 1960s, one of these interventions, behavioral treatment, has appeared promising. Behavioral treatment has been found to increase adaptive behaviors such as language and social skills, while decreasing disruptive behaviors such as aggression (DeMyer, Hingtgen, & Jackson, 1981; Newsom & Rincover, 1989; Rutter, 1985). Furthermore, behavioral treatment has been continuously refined and improved as a result of ongoing research efforts at a number of sites (Lovaas & Smith, 1988).

Some recent evidence has indicated that behavioral treatment has developed to the point that it can produce substantial improvements in the overall functioning of young children with autism (Simeonnson, Olley, & Rosenthal, 1987). Lovaas (1987) provided approximately 40 hours per week of one-on-one behavioral treatment for a period of 2 years or more to an experimental group of 19 children with autism who were under 4 years of age. This intervention also included parent training and mainstreaming into regular preschool environments. When re-evaluated at a mean age of 7 years, subjects in the experimental group had gained an average of 20 IQ points and had made major advances in educational achievement. Nine of the 19 subjects completed first grade in regular (nonspecial education) classes entirely on their own and had IQs that increased to the average range. By contrast, two control groups totalling 40 children, also diagnosed as autistic and comparable to the experimental group at intake, did not fare nearly as well. Only one of the control subjects (2.5%) attained normal levels of intellectual and educational functioning.

These data suggest that behavioral treatment is effective. However, the durability of treatment gains is uncertain. In one prior major study, Lovaas, Koegel, Simmons, and Long (1973) found that children with autism regressed following the termination of treatment. Other studies have shown that children with autism may display increased difficulties when they enter adolescence (Kanner, 1971; Waterhouse & Fein, 1984). Also, as was stated in the first follow-up (Lovaas, 1987), "Certain residual deficits may remain in the normal-functioning group that cannot be detected by teachers and parents and can only be isolated on closer psychological assessment, particularly as these children grow older" (p. 8). This possibility points to the need for a more detailed assessment and for continued follow-ups of the group over time.

The present investigation contained two parts: In the first part we examined whether several years after the evaluation at age 7, the experimental group in Lovaas's (1987) study had maintained its treatment gains. Subjects in the experimental group and one of the control groups completed standardized tests of intellectual and adaptive functioning. The groups were then contrasted with each other, and their current performance was compared to their performance on previous assessments. The second part of the investigation focused on those subjects who had achieved the best outcome at the end of first grade in the Lovaas (1987) study (i.e., the 9 subjects who were classified as normal functioning out of the 19 in the experimental group). We examined the extent to which these best-outcome subjects could be considered free of autistic symptomatology. A test battery was constructed to assess a variety of possible deficits: for example, idiosyncratic thought patterns, mannerisms, and interests; lack of close relationships with family and friends; difficulty in getting along with people; relative weaknesses in certain areas of cognitive functioning, such as abstract reasoning; not working up to ability in school; flatness of affect; absence or peculiarity in sense of humor. Possible strengths to be identified included normal intellectual functioning, good relationships with family members, ability to function independently, appropriate use of leisure time, and adequate socialization with peers. Numerous methodological precautions were taken to ensure objectivity of the follow-up examination.

Method

Subjects and Background

Characteristics of the subjects and their treatment have been described elsewhere (Lovaas, 1987) and will only be summarized here. The initial treatment study contained 38 children who, at the time of intake, were very young (less than 40 months if mute, less than 46 months if echolalic) and had received a diagnosis of autism from a licensed clinical psychologist or psychiatrist not involved in the study. These 38 subjects were divided into an experimental group and a control group. The assignment to groups was made on the basis of staff availability. At the beginning of each academic quarter, treatment teams were formed. The clinic director and staff members then determined whether any opening existed for intensive treatment. If so, the next referral received would enter the experimental group; otherwise, the subject entered the control group. The experimental group contained 19 children who received 40 or more hours per week of one-to-one behavioral treatment for 2 or more years. The control group was comprised of 19 children who received a much less intensive intervention (10 hours a week or less of one-to-one behavioral treatment in addition to a variety of treatments provided by community agencies, such as parent training or special education classes). The initial study also included a second control group, consisting of 21 children with autism who were followed over time by a nearby agency but who were never referred for this study. However, these 21 subjects were not available for the present investigation. On standardized measures of intelligence, the second control group did not differ from either the experimental group or the first control group at intake, nor did it differ from the first control group when evaluated again when the subjects were 7 years old. These findings suggest that, as measured by standardized tests, (a) the children with autism who were referred to us for treatment were comparable to children with autism seen elsewhere and (b) the minimal treatment provided to the first control group did not alter intellectual functioning.

Statistical analysis of an extensive range of pretreatment measures confirmed that the experimental group and control group were comparable at intake and closely matched on such important variables as IQ and severity of disturbance. The mean chronological age (CA) at diagnosis for subjects in the experimental group was 32 months. Their mean IQ was 53 (range 30 to 82; all IQs are given as deviation scores). The mean CA of subjects in the control group was 35 months; their mean IQ was 46 (range 30 to 80). Most of the subjects were mute, all had gross deficiencies in receptive language, none played with peers or showed age-appropriate toy play, all were emotionally withdrawn, most had severe tantrums, and all showed extensive ritualistic and stereotyped (self-stimulatory) behaviors. Thus, they appeared to be a representative sample of children with autism (Lovaas, Smith, & McEachin, 1989). A more complete presentation of the intake data was reported by Lovaas (1987).

The children in the experimental group and control group received their respective treatments from trained student therapists who worked in the child's home. The parents also worked with their child, and they received extensive instruction and supervision on appropriate treatment techniques. Whenever possible, the children were integrated into regular preschools. The treatment focused primarily on developing language, increasing social behavior, and promoting cooperative play with peers along with independent and appropriate toy play. Concurrently, substantial efforts were directed at decreasing excessive rituals, tantrums, and aggressive behavior. (For a more detailed description of the intervention program, see the treatment manual [Lovaas et al., 1980] and instructional videotapes that supplement the manual [Lovaas & Leaf, 1981].)

At the time of the present follow-up (1984–1985), the mean CA of the experimen-

tal group children was 13 years (range = 9 to 19 years). All children who had achieved normal functioning by the age of 7 years had ended treatment by that point. (*Normal functioning* was operationally defined as scoring within the normal range on standardized intelligence tests and successfully completing first grade in a regular, nonspecial education class entirely on one's own.) On the other hand, some of the children who had not achieved normal functioning at 7 years of age had, at the request of their parents, remained in treatment. The length of time that experimental subjects had been out of treatment ranged from 0 to 12 years (mean = 5), with the normal-functioning children having been out for 3 to 9 years (mean = 5).

The mean age of subjects in the control group was 10 years (range 6 to 14). The length of time that these children had been out of treatment ranged from 0 to 9 years (mean = 3). Thus, experimental subjects tended to be older and had been out of treatment longer than had control subjects. This difference in age occurred because the first referrals for the study were all assigned to the experimental group due to the fact that referrals came slowly (7 in the first 3.5 years) and therapists were available to treat all of them. (As noted earlier, subjects were assigned to the experimental group if therapists were available to treat them; otherwise, they entered the control group.)

Statistical analyses were conducted to test whether a bias resulted from the tendency for the first referrals to go into the experimental group. For example, it is conceivable that the first referrals could have been higher functioning at intake or could have had a better prognosis than subsequent referrals. If so, the subject assignment procedure could have favored the experimental group. To assess this possibility, we correlated the order of referral with intake IQ and with IQ at the first follow-up (age 7 years). Pearson correlations were computed across both groups and within each group. These analyses indicated that the order in which subjects were referred was not associated with intake IQ or outcome IQ. Conseque although the tendency for the first referra enter the experimental group created a tential bias, the data indicate that this unlikely.

Procedure

The assessment procedure inclu ascertaining school placement and adm tering three standardized tests. Informa on school placement was obtained f subjects' parents, who classified then being in either a regular or a special ed tion class (e.g., a class for children autism or mental retardation, language lays, multihandicaps, or learning disa ties). The three standardized tests wer follows:

1. *Intelligence test.* The Wechsler I ligence Scale for Children-Revised (Wech 1974) was administered when subjects v able to provide verbal responses. This cluded all 9 best-outcome experimental jects plus 8 of the remaining 10 experime subjects and 6 of the 19 control subjects. subjects who were not able to provide ve responses, the Leiter International Pe mance Scale (Leiter, 1959) and the Peab Picture Vocabulary Test-Revised (Dunn, 1 were administered. All of these tests h been widely used for the assessmen intellectual functioning in children with tism (Short & Marcus, 1986).

2. *The Vineland Adaptive Beha Scales* (Sparrow, Balla, & Cicchetti, 19 The Vineland is a structured interview ministered to parents assessing the ex to which their child exhibits behaviors are needed to cope effectively with everyday environment.

3. *The Personality Inventory for C dren* (Wirt, Lachar, Klinedinst, & Seat, 19 This measure is a 600-item true–false q tionnaire filled out by parents that asse the extent to which their children sh various forms of psychological disturba (e.g., anxiety, depression, hyperactivity, psychotic behavior).

These three tests were intended to provide a comprehensive evaluation of intellectual, social, and emotional functioning. All of the tests have been standardized on average populations. Hence, they provide an objective basis for comparing subjects to children without handicaps across the various areas that they assess.

Data were obtained on all subjects except one girl in the control group, who was known to be institutionalized and functioning very poorly. The 9 best-outcome subjects (those who had been classified as normal functioning at age 7) received particularly extensive evaluations, as outlined later. Of the 28 remaining subjects, 17 were evaluated by staff members in our treatment program, and 11 received evaluations from outside agencies such as schools or psychology clinics. (In some cases, the outside agencies did not administer all of the measures in this battery.)

Evaluation of Best-Outcome Subjects. To ensure objectivity in the evaluation of the best-outcome subjects, we arranged for blind administration and scoring of all tests for these subjects as follows. A psychologist not associated with the study recruited advanced graduate students in clinical psychology to administer the tests. The examiners were not familiar with the history of the children, and the psychologist told them simply that the testing was part of a research study on assessment of children. The psychologist advised them that the nature of the study necessitated providing only certain standard background information: age, school placement and grade, and parent's name and phone number. To increase the heterogeneity of the sample and to control for any examiner bias, each examiner also tested one or more subjects who were matched in age to the experimental subjects and had no history of behavioral disturbance. The examiners were randomly assigned an approximately equal number of subjects for testing in the experimental group and the comparison group. Two experimental subjects were not living in the local area. Therefore, for each of them, the psychologist recruited a tester from the subject's hometown area as well as an age-matched control subject, and data were collected as just described. In addition, the child's examiner filled out a clinical rating scale following a structured interview that covered a list of standard topics, including friendships, family relations, and school and community activities. The interview was designed both for eliciting content and for sampling interpersonal style. The rating scale consisted of 22 items, each scored 0 (best clinical status) to 3 (marked deviance) points. The items were designed to include likely areas of difficulty for children with autism of average intelligence (e.g., compulsive or ritualistic behavior, empathy for and interest in others, a sense of humor) as well as areas of potential difficulty for the general child population (e.g., depressed mood, anxiety, hyperactivity). (The complete scale and a copy of instructions for the clinical interview can be obtained by writing to the third author).

Results

Experimental Versus Control Group

This first section examines the overall effects of treatment through comparison of the follow-up data from the 19 subjects who received the intensive (experimental) treatment to the data from those who received the minimal (control) treatment. Data were obtained from all subjects on school placement and from all but one subject in the control group on IQ. On the Vineland, scores were obtained for 18 of 19 experimental subjects and 15 of 19 control subjects. The lowest availability of follow-up scores was on the Personality Inventory for Children, with scores for 15 experimental subjects and 12 control subjects.

The subjects in the control group who had Personality Inventory for Children scores did not appear to differ from subjects who were missing these scores, as compared on

t tests for differences in intake IQ, IQ at 7 years old, or IQ in the present study.

As noted earlier, 17 of the 29 subjects who were not in the best-outcome group were evaluated by Project staff members, 11 were evaluated by outside agencies, and 1 was not evaluated. To check whether Project staff members were biased in their evaluations or in their selection of which subjects to evaluate, we used *t* tests to compare subjects they evaluated to those evaluated by outside agencies on intake IQ, IQ at age 7 years, and IQ in the present study. No significant differences between subjects evaluated by Project staff members and those evaluated by outside agencies were found.

School Placement. In the experimental group, 1 of the 9 subjects from the best-outcome group who had attended a regular class at age 7 (J. L.) was now in a special education class. However, 1 of the other 10 subjects had gone from a special education class to a regular class and was enrolled in a junior college at the time of this follow-up. The remaining experimental subjects had not changed their classification. Overall, then, the proportion of experimental subjects in regular classes did not change from the age 7 evaluation (9 of 19, or 47%). In the control group, none of the 19 children were in a regular class, as had been true at the age 7 evaluation. The difference in classroom placement between the experimental group and the control group was statistically significant, χ^2 (1, N = 38) = 19.05, $p < .05$.

Intellectual Functioning. The test scores for the experimental group and control group on intellectual functioning, adaptive and maladaptive behaviors, and personality functioning are summarized in Table 1. As can be seen in the table, the experimental group at follow-up had a significantly higher mean IQ than did the control group. This difference was significant, $t(35) = 2.97$, $p < .01$. Eleven subjects (58%) in the experimental group obtained Full-Scale IQs of at least 80; only 3 subjects (17%) in the control group did as well. The scores were similar to those obtained by the experimental group and control group at age 7 (mean IQs of 83 and [illegible], respectively), indicating that the experimental group had maintained its gains in intellectual functioning between age 7 and the time of the current evaluation.

Table 1
Mean Scores and *SD*s by Group and Measure at Follow-Up

Measure	Group		
	Experimental		Control
	Mean	*SD*	Mean
IQ	84.5	32.4	
Vineland[a]			
Communication	5.1	28.4	
Daily Living Skills	73.1	26.9	
Socialization	75.5	26.8	
Adaptive Behavior Composite	71.6	26.8	
Maladaptive Behavior	10.6	8.2	
PIC[b] Scales			
Mean elevation	61.8	10.2	
Scales > 70	4.0	3.9	

[a]Vineland Adaptive Behavior Scale. [b]Personality Inventory for Children.

Adaptive and Maladaptive Behavior. On the Vineland, the mean overall or Composite score was 72 in the experimental group and 48 in the control group. (The average score for the general population on this test is 100, with a standard deviation (*SD*) of 15.) On the three subscales—Communication, Daily Living, and Socialization—each score closely paralleled the Composite score. The interaction between the groups and the subscales was not significant, indicating that across the three subscales, the experimental group consistently scored higher than did the control group. As can be seen in Table 1, Maladaptive Behavior was significantly higher in the control group, $t(31) = 2.39$, $p < .05$. The mean score for the control group was in the clinically significant range whereas that of the experimental group was not. (Scores of 13 and above are considered to be indicative of clinically significant levels of maladaptive behavior at ages 6 to 9 years; 12 or above, at 12 to 13 years; and 10 or above, at 14 years and older.) Thus, the findings indicate that the experimental group showed more adaptive behaviors and fewer maladaptive behav-

iors than did the control group.

Personality Functioning. Scores for the experimental group and control group did not differ on overall scale elevation, with mean *t* scores of 62 and 65, respectively. (On this test, the mean *t* score for the general population is approximately 50 [*SD* = 10].) *T* scores above 60 are considered indicative of possible or mild deviance, whereas *t* scores above 70 are viewed as suggesting a clinically significant problem, namely, one that may require professional attention. There was a significant interaction between the groups and the individual scales on this test, $F(15, 390) = 2.36$, $p < .01$. Results of the Tukey test indicated that the most reliable difference between groups occurred on the Psychosis scale, on which the experimental subjects had a mean of 78 and the control subjects had a mean of 104, $F(1, 26) = 8.53$, $p < .01$. Seven subjects in the experimental group scored in the clinically preferred range (below 70), whereas no subjects in the control group scored that low. Only one other scale showed a significant difference, Somatic Concerns, $F(1, 26) = 4.60$, $p < .05$. The control subjects tended to display a below average level of somatic complaints (mean of 45 as compared to 54 for the experimental subjects).

Best-Outcome Versus Nonclinical Comparison Group

A *t* test indicated no significant difference in age between the best-outcome group and the comparison group of children without a history of clinically significant behavioral disturbance. Subjects in the best-outcome group had a mean age of 12.42 years (range 10.0 to 16.25) versus 12.92 years (range 9.0 to 15.17) for the nonclinical comparison group. Scores on the WISC-R and clinical rating scale were obtained for all subjects; 1 experimental subject and 2 nonclinical comparison subjects were missing Vineland scores, and 2 experimental subjects and 1 nonclinical comparison subject were missing Personality Inventory for Children scores. Both the Vineland and Personality Inventory for Children were completed by parents. In cases where these scores were not obtained, the parents had declined to participate.

On the measures that provide standardized scores, the functioning of the best-outcome subjects was measured most precisely by comparing the best-outcome group against the test norms. Therefore, this analysis is of primary interest. Data for the nonclinical comparison group are mainly useful in confirming that the assessment procedures were valid and in providing a contrast group for the one measure without norms, the Clinical Rating Scale. For the nonclinical comparison group, it will suffice to summarize the results as follows: On the WISC-R this group had mean IQs of 116 Verbal, 118 Performance, and 119 Full-Scale. On the Vineland the group obtained mean standard scores of 102 Communication, 100 Daily Living Skills, 102 Socialization, and 101 Composite. The mean scale score on the Personality Inventory for Children was 49. Thus, the nonclinical comparison group displayed above-average or average functioning across all areas that were assessed.

The next section is focused on the functioning of the best-outcome group on IQ, adaptive and maladaptive behavior, and personality measures and contrasts the best-outcome subjects with the comparison subjects on the Clinical Rating Scale.

Intellectual Functioning. Table 2 presents the IQ data for each subject in the best-outcome group and the mean scores for the group. This table shows that, as a whole, the 9 best-outcome subjects performed well on the WISC-R. Their IQs placed them in the high end of the normal range, about two thirds of an *SD* above the mean. Their Full-Scale IQs ranged from 99 to 136.

Subjects' scores were evenly distributed across a range from 80 to 125 on Verbal IQ and from 88 to 138 on Performance IQ. The subjects averaged 3 points higher on Performance IQ than Verbal IQ. Two of them (J. L. and A. G.) had at least a 20-point difference

Table 2
WISC-R Scores of the Best-Outcome Subjects

	Verbal					Performance					WISC-R IQ		
Subject	Infrm	Simil	Arith	Vocab	Compr	PicC	PicA	BlkD	ObjA	Cod	VIQ	PIQ	Full
R.S.	12	12	13	9	11	10	9	13	12	11	106	106	106
M.C.	17	19	11	14	10	12	16	19	19	11	125	138	136
M.M.	14	13	10	14	11	12	11	11	11	8	114	102	109
L.B.	12	16	11	13	15	7	12	17	17	19	119	131	128
J.L.	6	9	7	4	8	16	11	16	14	7	80	123	100
D.E.	9	17	8	10	15	13	9	12	9	17	98	114	105
A.G.	7	14	12	11	13	9	4	8	11	10	108	88	99
B.W.	12	11	10	10	9	7	10	9	11	10	102	95	99
B.R.	11	14	11	13	16	12	10	12	11	10	118	108	114
Mean	11.1	13.9	10.3	10.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	111

Note. Infrm = Information, Simil = Similarities, Arith = Arithmetic, Vocab = Vocabulary, Compr = Comprehension, PicC = Picture Completion, PicA = Picture Arrangement, BlkD = Block Design, ObjA = Object Assembly, Cod = Coding, VIQ = Verbal IQ, PIQ = Performance IQ, and Full = Full-Scale IQ.

between Verbal and Performance IQ.

On each subtest of the WISC-R, the mean for the general population is 10 (*SD* = 3). It can be seen from Table 2 that the best-outcome subjects scored highest on Similarities, Block Design, and Object Assembly. They scored lowest on Picture Arrangement and Arithmetic. Thus, the subjects consistently scored at or above average.

Adaptive and Maladaptive Behavior. Table 3 presents the data for the best-outcome group on the Vineland Adaptive Behavior Scales. It can be seen that the best-outcome group scored about average on the Composite Scale and on the subscales for Communication, Daily Living, and Socialization. However, Table 3 shows that some of the best-outcome subjects had marginal scores, including J. L., B. W., and M. M. Even so, all of the best-outcome subjects had Composite scores within the normal range.

As can be seen in Table 3, on the Maladaptive Behavior Scale (Parts I and II), the mean score for the best-outcome group indicated that, on average, these subjects did not display clinically significant levels of maladaptive behavior. Three of them scored in the clinically significant range versus one subject in the nonclinical comparison group, which had a mean of 7.7 on this scale.

Personality Functioning. The results of the Personality Inventory for Children are summarized in Table 4. The best-outcome subjects obtained valid profiles on the Personality Inventory for Children, as measured by the three validity scales (Lie, Frequency, and Defensiveness). As can be seen from the table, the subjects scored in the normal range across all scales. They tended to score highest on Intellectual-Screening, Psychosis, and Frequency. Intellectual-Screening assesses slow intellectual development, and Psychosis and Frequency assess unusual or strange behaviors. Only Intellectual-Screening was above the normal range, and this scale is affected by subjects' early history. For example, the scale contains statements such as "My child first talked before he (she) was two years old," which would be false for the best-outcome subjects regardless of their current level of functioning.

As Table 4 indicates, 4 best-outcome subjects had a single scale elevated beyond

Table 3
Scores on the Vineland Adaptive Behavior Scale for the Best-Outcome Subjects

	Adaptive behavior				Maladaptive
Subject	Com	DLS	Soc	Comp	behavior
R.S.	83	98	102	92	6
M.C.	119	93	86	98	16
M.M.	119	79	114	105	2
L.B.	107	108	112	108	4
J.L.	77	103	94	88	13
D.E.	93	81	82	80	15
A.G.	101	97	99	98	5
B.W.	83	74	105	83	9
B.R.	—	—	—	—	—
Mean	98	92	99	94	8.8

Note. Com = Communication, DLS = Daily Living Skills, Soc = Socialization, Comp = Adaptive Behavior Composite.

Table 4
T Scores on the Personality Inventory for Children for the Best-Outcome Subjects

Subject	*T* score Mean	<70	L	F	Def	Adj	Ach	I-S	Dvl	Som	Dep	Fam	Dlq	Wdr	Anx	Psy	Hyp	Soc
R.S.	56	1	49	54	43	61	53	75	49	44	69	47	46	69	60	65	46	64
M.C.	52	1	48	63	37	43	39	54	38	64	55	54	46	65	51	75	40	55
M.M.	49	0	42	54	43	50	42	64	46	58	48	55	46	47	53	46	54	36
L.B.	51	1	60	50	49	49	37	70	39	55	49	48	51	45	60	51	49	51
J.L.	70	9	42	84	37	85	77	94	65	78	86	65	61	69	78	76	52	72
D.E.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A.G.	51	0	38	45	49	57	48	39	53	51	49	69	40	55	55	55	49	63
B.W.	54	1	45	63	50	59	64	48	55	47	44	57	90	44	45	46	62	44
B.R.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mean	55	2	46	56	44	58	51	64	49	57	57	56	54	56	57	59	50	55

Note. Mean = mean elevation across all scales. L = Lie scale, F = Frequency, Def = Defensiveness, Adj = Adjustment, Ach = Achievement, I-S = Intellectual-Screening, Dvl = Development, Som = Somatic Concern, Dep = Depression, Fam = Family Relations, Dlq = Delinquency, Wdr = Withdrawal, Anx = Anxiety, Psy = Psychosis, Hyp = Hyperactivity, Soc = Social Skills.

the clinically significant range and a 5th (J. L.) had nine scales elevated, including the highest scores in the best-outcome group on Intellectual-Screening, Psychosis, and Frequency. Thus, this subject appeared to account for much of the elevation in scores on these scales. By comparison, there were 3 subjects in the nonclinical comparison group with at least one scale elevated.

Clinical Rating Scale. On this scale, 8 of the best-outcome subjects scored between 0 and 10, and the 9th (J. L.) scored 42. The mean was 8.8, with a standard deviation of 12.9. The nonclinical comparison subjects all scored between 0 and 5 (mean = 1.7, *SD* = 2.1). Because these *SD*s are unequal, we used a nonparametric statistic, a Mann-Whitney *U* test, revealing a significant difference between groups, $U = 19$, $p < .05$. Thus, the best-outcome subjects displayed more deviance than did the comparison subjects, but most of the deviance appeared to come from one subject, J. L.

Discussion

This study is a later and more extensive follow-up of two groups of young subjects with autism who were previously studied by Lovaas (1987): (a) an experimental group (n = 19) that had received very intensive behavioral treatment and (b) a control group (n = 19) that had received minimal behavioral treatment. In the present study we have reported data on these children at a mean age of 13 years for subjects in the experimental group and 10 years for those in the control group. The data were obtained from a comprehensive assessment battery.

The main findings from the test battery were as follows: First, subjects in the experimental group had maintained their level of intellectual functioning between their previous assessment at age 7 and the present evaluation at a mean age of 13, as measured by standardized intelligence tests. Their mean IQ was about 30 points higher than that of control subjects. Second, experimental subjects also displayed significantly higher levels of functioning than did control subjects on measures of adaptive behavior and personality. Third, in a particularly rigorous evaluation of the 9 subjects in the experimental group who had been classified as best-outcome (normal-functioning) in the earlier study (Lovaas, 1987), the test results consistently indicated that the subjects exhibited average intelligence and average levels of adaptive functioning. Some deviance from average was found on the personality test and the clinical ratings. However, this deviance appeared to derive from the extreme scores of one subject, J. L. (see Table 2, 3, and 4). This subject also had been removed from nonspecial education classes and placed in a class for children with language delays, and he obtained relatively

low scores (about 80) on the Verbal section of the intelligence test and the Communication section of the measure of adaptive behavior. Thus, he no longer appeared to be normal-functioning. However, the remaining 8 subjects who had previously been classified as normal-functioning demonstrated average IQ, with intellectual performance evenly distributed across subtests, were able to hold their own in regular classes, did not show signs of emotional disturbance, and demonstrated adequate development of adaptive and social skills within the normal range. In addition, subjective clinical impressions of blind examiners did not discriminate them from children with no history of behavioral disturbance. These 8 subjects (42% of the experimental group) may be judged to have made major and enduring gains and may be described as "normal-functioning." By contrast, none of the control group subjects achieved such a favorable outcome, consistent with the poor prognosis for children with autism reported by other investigators (Freeman, Ritvo, Needleman, & Yokota, 1985).

In order to evaluate this outcome, we must pay close attention to whether or not our methodology was sound. The adequacy of our methodology is crucial because the outcome in the present study represents a major improvement over outcomes obtained in previous experimental studies on the treatment of children with autism (Rutter, 1985). The only reports of comparable outcomes have come from uncontrolled case studies (e.g., Bettelheim, 1967), and subsequent investigations have indicated that these case studies grossly overestimated the outcomes obtainable with the treatment that was provided. Similarly, reports of major gains in other populations, such as large IQ increases in children from impoverished backgrounds, also have been based on highly questionable evidence (Kamin, 1974; Spitz, 1986). Such reports have the potential to cause a great deal of harm by misleading consumers and professionals.

A detailed description of all the methodological safeguards that should be built into a treatment study is beyond the scop the present report (see Kazdin, 1980; Ken & Norton-Ford, 1982; Spitz, 1986). Howe we note that we incorporated a large num of methodological safeguards in both original study (Lovaas, 1987) and the pres investigation:

1. The experimental group and control group received equivalent ass ment batteries at intake and were found tc very similar on a multitude of import variables. Moreover, the number of con group subjects who were predicted to achi normal functioning, had they received int sive treatment, was approximately equal the number of experimental subjects w actually did achieve normal functioning w intensive treatment (Lovaas & Smith, 19 Thus, the subject assignment proced yielded groups that were comparable pr to treatment. This provided a strong indi tion that the superior functioning of experimental group after treatment wa result of the treatment itself rather thar biased procedure for assigning subjects the experimental group.

2. All subjects remained in the groups which they were assigned at intake. Onl subjects dropped out, and they were r replaced. Therefore, the original compc tion of the groups was essentially preserv

3. All subjects were independently agnosed as autistic by PhD or MD clinicia and there was high agreement on the di nosis between the independent clinicia This provided evidence that subjects n criteria for a diagnosis of autism.

4. Prior to treatment, these subje appeared to be comparable to those di nosed as having autism in other resea investigations. Evidence for this comes fr the second control group that was incor rated into the initial treatment study. T group was evaluated by another resea team (independent of ours), had similar I at intake based on the same measures intelligence that we used, yet showed sim outcome data to those reported by otl investigators. Additional evidence can

derived from the similarity of our intake data to data reported by other investigators (Lovaas et al., 1989). For example, although Schopler and his associates (Schopler, Short, & Mesibov, 1989) suggested that our sample had a higher mean IQ than did other samples of children with autism, their own data do not appear to differ from ours (Lord & Schopler, 1989). Thus, there is evidence that our subjects were a typical group of preschool-age children with autism rather than a select group of high-level children with autism who would have been expected to achieve normal functioning with little or no treatment.

5. The first control group, which received up to 10 hours a week of one-to-one behavioral treatment, did not differ at posttreatment from the second control group, which received no treatment from us. Both groups achieved substantially less favorable outcomes than did the experimental group. Because all groups were similar at pretreatment, this result confirms that our subjects had problems that responded only to intensive treatment rather than problems such as being noncompliant or holding back (masking an underlying, essentially average intellectual functioning that would respond to smaller-scale interventions).

6. Subjects' families ranged from high to low socioeconomic status, and, on average, they did not differ from the general population (Lovaas, 1987). Thus, although our treatment required extensive family participation, a diverse group of families was apparently able to meet this requirement.

7. The treatment has been described in detail (Lovaas et al., 1980; Lovaas & Leaf, 1981), and the effectiveness of many components of the treatment has been demonstrated experimentally by a large number of investigators over the past 30 years (cf. Newsom & Rincover, 1989). Hence, our treatment may be replicable, a point that is discussed in greater detail later.

8. The results of the present follow-up, which extended several years beyond discharge from treatment for most subjects, are an encouraging sign that treatment gains have been maintained for an extended period of time.

9. A wide range of measures was administered, avoiding overreliance on intelligence tests, which have limitations if used in isolation (e.g., bias resulting from teaching to the test, selecting a test that would yield especially favorable results, failing to assess other aspects of functioning such as social competence or school performance) (Spitz, 1986; Zigler & Trickett, 1978).

10. The use at follow-up of a normal comparison group, standardized testing, and blind rating allowed for an objective, detailed, and quantifiable assessment of treatment effectiveness. A particularly rigorous assessment was given to those subjects who showed the most improvement.

Taken together, these safeguards provide considerable assurance that the favorable outcome of the experimental subjects can be attributed to the treatment they received rather than to extraneous factors such as improvement that would have occurred regardless of treatment, biased procedures for selecting subjects or assigning them to groups, or narrow or inappropriate assessment batteries.

Despite the numerous precautions that we have taken, several concerns may be raised about the validity of the results. Perhaps the most important is that the assignment to the experimental or control group was made on the basis of therapist availability rather than a more arbitrary procedure such as alternating referrals (assigning the first referral to the experimental group, the second to the control group, the third to the experimental group, and so forth). However, it seems unlikely that the assignment was biased in view of the pretreatment data we have presented on the similarity between the experimental and control groups. On the other hand, we do not know as yet whether there exists a pretreatment variable that does predict outcome but was not among the 19 we chose, yet could have discriminated between groups. In an earlier publication (Lovaas et al., 1989), we responded in some

detail to the concern about subject assignment as well as other possible problems associated with the original study. There are certain additional questions that may be raised by this follow-up investigation:

1. The experimental group was older than the control group at the time of this follow-up evaluation. We explained this finding earlier and noted that data analyses indicated that it was unlikely that this age difference reflected a bias in subject assignments.

2. The follow-up assessments for 17 of the lower functioning subjects in this study were conducted by staff members from our Project, who could have biased the test results. However, as noted previously, a check revealed no evidence of such a bias.

3. The Clinical Rating Scale, based on an interview with subjects who had been classified as normal-functioning in the original study, has no norms or data on reliability and validity. However, we regard the interview simply as an extra check on whether the examiners detected residual signs of autism or other behavior problems that were somehow overlooked in the three other (well-standardized) measures in the study and their 30 subscales. We do not regard the interview as an instrument that by itself yields conclusive results. No other interview that suited our purposes currently exists. In future investigations, we plan to use an interview that Michael Rutter and his associates are now developing for the purpose of detecting of residual signs of autism in individuals with average intelligence.

4. As in most long-term follow-up studies, we had some missing data. However, there is no evidence that the missing data would have changed the overall results.

5. In our analysis of the best-outcome group, we noted that the group averages deviated from "normal" on one subscale of the Personality Inventory for Children and on the Clinical Rating Scale. We then attributed this deviance to the extreme scores of one subject rather than to general problems within this group. We recognize that group averages are seldom interpreted this way. However, as statisticians and methodologists have pointed out (e.g., Barlow & Hersen, 1984), there are many times when group averages represent the performance of few or no subjects within the group. This was one of those times, as is clearly shown by the data on individual subjects (Tables 2, 3, and 4). Deviance was found almost exclusively in one subject, not evenly distributed across all subjects, and we have presented the results accordingly.

The most important void for research to fill at this time is replication by independent investigators who employ sound methodologies. Given the objective assessment instruments that we used and the detailed description that we have provided of the treatment (Lovaas et al., 1980), such a replication should be possible. However, the treatment is complex and to replicate it properly, an investigator probably needs to possess (a) a strong foundation in learning theory research; (b) a detailed knowledge of the treatment manual we used; (c) a supervised practicum of at least 6 months in one-to-one work with clients who have developmental delays, emphasizing discrimination learning and building complex language; and (d) a commitment to provide 40 hours of one-to-one treatment to client per week, 50 weeks per year, for at least 2 years. Our best-outcome subjects all required a minimum of 2 years of intensive treatment to achieve average levels of functioning (another indication that those subjects had pervasive disabilities and were not merely noncompliant).

A second void to fill concerns the majority of children who did not benefit to the point of achieving normal functioning with intensive treatment. Perhaps an earlier start in treatment would have been all that was needed to obtain favorable outcomes with many of these children. More pessimistically, perhaps such children require new and different interventions that have yet to be discovered and implemented. In any case, it is essential to develop more appropriate

services for these children.

Finally, a rather speculative but promising area for research is to determine the extent to which early intervention alters neurological structures in young children with autism. Autism is almost certainly the result of deficits in such neurological structures (Rutter & Schopler, 1987). However, laboratory studies on animals have shown that alterations in neurological structure are quite possible as a result of changes in the environment in the first years of life (Sirevaag & Greenough, 1988), and there is reason to believe that alterations are also possible in young children. For example, children under 3 years of age overproduce neurons, dendrites, axons, and synapses. Huttenlocher (1984) hypothesized that, with appropriate stimulation from the environment, this overproduction might allow infants and preschoolers to compensate for neurological anomalies much more completely than do older children. Caution is needed in generalizing from these findings on average children to early intervention with children with autism, particularly because the exact nature of the neurological anomalies of children with autism is unclear at present (e.g., Rutter & Schopler, 1987). Nevertheless, the findings suggest that intensive early intervention could compensate for neurological anomalies in such children. Finding evidence for such compensation would help explain why the treatment in this study was effective. More generally, it might contribute to an understanding of brain–behavior relations in young children.

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Received: 5/15/91; first decision: 10/16/91; accepted: 1/23/92.

*** * * * * *UNITED STATES DISTRICT COURT* * * * * ***

NORTHERN DISTRICT OF _NEW YORK_

JUDGMENT IN A CIVIL CASE

DOCKET NO: 1:17-CV-0501 (LEK/CFH)

R.S. & E.S.
individually, and on behalf of their son, A.S.,

Plaintiffs,

-against-

Board of Education Shenendehowa Central School District, et al.,

Defendants.

_____ **JURY VERDICT. This action came before the Court for a trial by jury. The issues have been tried and the jury has rendered its verdict.**

__XX__ **DECISION by COURT. This action came to trial or hearing before the Court. The issues have been tried and a decision has been rendered.**

IT IS ORDERED AND ADJUDGED that in the above entitled action, the case is DISMISSED and judgment is entered in favor of the Defendants as against the Plaintiffs, in accordance with the MEMORANDUM-DECISION and ORDER of the Honorable Lawrence E. Kahn, U. S. District Judge, dated February 20, 2019 and TEXT ORDER of the Honorable Lawrence E. Kahn, U. S. District Judge, dated October 20, 2020.

DATE: October 20, 2020

John M. Domurad
CLERK OF THE COURT

Scott A. Snyder
Courtroom Deputy to the Honorable Lawrence E. Kahn

Federal Rules of Appellate Procedure
Rule 4. Appeal as of Right

(a) Appeal in a Civil Case.

1. (1) *Time for Filing a Notice of Appeal.*

(A) In a civil case, except as provided in Rules 4(a)(1)(B), 4(a)(4), and 4(c), the notice of appeal required by Rule 3 must be filed with the district clerk within 30 days after entry of the judgment or order appealed from.

(B) The notice of appeal may be filed by any party within 60 days after entry of the judgment or order appealed from if one of the parties is:

(i) the United States;
(ii) a United States agency;
(iii) a United States officer or employee sued in an official capacity; or
(iv) a current or former United States officer or employee sued in an individual capacity for an act or omission occurring in connection with duties performed on the United States' behalf — including all instances in which the United States represents that person when the judgment or order is entered or files the appeal for that person.

(C) An appeal from an order granting or denying an application for a writ of error *coram nobis* is an appeal in a civil case for purposes of Rule 4(a).

(2) *Filing Before Entry of Judgment.* A notice of appeal filed after the court announces a decision or order—but before the entry of the judgment or order—is treated as filed on the date of and after the entry.

(3) *Multiple Appeals.* If one party timely files a notice of appeal, any other party may file a notice of appeal within 14 days after the date when the first notice was filed, or within the time otherwise prescribed by this Rule 4(a), whichever period ends later.

(4) *Effect of a Motion on a Notice of Appeal.*

(A) If a party timely files in the district court any of the following motions under the Federal Rules of Civil Procedure, the time to file an appeal runs for all parties from the entry of the order disposing of the last such remaining motion:

(i) for judgment under Rule 50(b);

(ii) to amend or make additional factual findings under Rule 52(b), whether or not granting the motion would alter the judgment;

(iii) for attorney's fees under Rule 54 if the district court extends the time to appeal under Rule 58;

(iv) to alter or amend the judgment under Rule 59;

(v) for a new trial under Rule 59; or

(vi) for relief under Rule 60 if the motion is filed no later than 28 days after the judgment is entered.

(B)(i) If a party files a notice of appeal after the court announces or enters a judgment—but before it disposes of any motion listed in Rule 4(a)(4)(A)—the notice becomes effective to appeal a judgment or order, in whole or in part, when the order disposing of the last such remaining motion is entered.

(ii) A party intending to challenge an order disposing of any motion listed in Rule 4(a)(4)(A), or a judgment's alteration or amendment upon such a motion, must file a notice of appeal, or an amended notice of appeal—in compliance with Rule 3(c)—within the time prescribed by this Rule measured from the entry of the order disposing of the last such remaining motion.

(5) *Motion for Extension of Time.*

(A) The district court may extend the time to file a notice of appeal if:

(i) a party so moves no later than 30 days after the time prescribed by this Rule 4(a) expires; and

(ii) regardless of whether its motion is filed before or during the 30 days after the time prescribed by this Rule 4(a) expires, that party shows excusable neglect or good cause.

(B) A motion filed before the expiration of the time prescribed in Rule 4(a)(1) or (3) may be ex parte unless the court requires otherwise. If the motion is filed after the expiration of the prescribed time, notice must be given to the other parties in accordance with local rules.

(C) No extension under this Rule 4(a)(5) may exceed 30 days after the prescribed time or 14 days after the date when the order granting the motion is entered, whichever is later.

(6) *Reopening the Time to File an Appeal.* The district court may reopen the time to file an appeal for a period of 14 days after the date when its order to reopen is entered, but only if all the following conditions are satisfied:

(A) the court finds that the moving party did not receive notice under Federal Rule of Civil Procedure 77 (d) of the entry of the judgment or order sought to be appealed within 21 days after entry;

(B) the motion is filed within 180 days after the judgment or order is entered or within 14 days after the moving party receives notice under Federal Rule of Civil Procedure 77 (d) of the entry, whichever is earlier; and

(C) the court finds that no party would be prejudiced.

(7) *Entry Defined.*

(A) A judgment or order is entered for purposes of this Rule 4(a):

(i) if Federal Rule of Civil Procedure 58 (a) does not require a separate document, when the judgment or order is entered in the civil docket under Federal Rule of Civil Procedure 79 (a); or

(ii) if Federal Rule of Civil Procedure 58 (a) requires a separate document, when the judgment or order is entered in the civil docket under Federal Rule of Civil Procedure 79(a) and when the earlier of these events occurs:

• the judgment or order is set forth on a separate document, or

• 150 days have run from entry of the judgment or order in the civil docket under Federal Rule of Civil Procedure 79 (a).

(B) A failure to set forth a judgment or order on a separate document when required by Federal Rule of Civil Procedure 58 (a) does not affect the validity of an appeal from that judgment or order.

Tuesday October 27, 2020

E.S. *Pro Se* and R.S. *Pro Se* on behalf of A.S
Motherandfatherobochild@gmail.com

Hon. Lawrence E. Kahn
Senior United States District Court Judge
U.S. District Court
Northern District of New York

Re: *R.S., et al. v. Board of Education Shenendehowa Central School District, et al., No. 1:17-CV-501 (LEK/CFH)*

Re: Resubmittal of Reply to Response Dkt. Nos. 113 and 114

Dear Judge Khan,

This case is currently under the jurisdiction of The Supreme Court of the United States. Please see the enclosed attachment that acknowledges receipt of out Petition for a Writ of Certiorari and request to correct the petition within 60 day of October 15, 2020 consistent with Rule 14.5 or the Rules of the United States Supreme Court.

Dated: County of Saratoga
October 27, 2020

s/ E.S. Pro Se and R.S. Pro Se on behalf of A.S.
Motherandfatherobochild@gmail.com

SUPREME COURT OF THE UNITED STATES
OFFICE OF THE CLERK
WASHINGTON, DC 20543-0001

October 15, 2020

R S
[redacted]

RE: R.S., et ux. v. Board of Education Shenendehowa Central School
USCA2 No. 20-1153
No: 20A59

Dear Mr. S

Returned is the original copy of the petition and appendix in the above-entitled case postmarked on October 5, 2020 and received on October 15, 2020, which fails to comply with the Rules of this Court.

The application (#20A59) to exceed the word limit was denied on October 5, 2020 by Justice Breyer.

The word limit of the text of a petition is 9,000 words. Please revise the petition to the correct word limit of 9,000 words or less in order for this Court to docket the petition for a writ of certiorari. Rule 33.1(g)(i).

Your petition and check in the amount of $300.00 are herewith returned.

Kindly correct the petition and appendix so that it complies in all respects with the Rules of this Court and return it to this Office promptly so that it may be docketed. Unless the petition is submitted to this Office in corrected form within 60 days of the date of this letter, the petition will not be filed. Rule 14.5.

A copy of the corrected petition must be served on opposing counsel. Rule 29.3.

Sincerely,
Scott S. Harris, Clerk
By:

Susan Frimpong
(202) 479-3039

Enclosures