The National Autism Center's

National Standards Report

THE NATIONAL STANDARDS PROJECT—
ADDRESSING THE NEED FOR EVIDENCE-
BASED PRACTICE GUIDELINES FOR
AUTISM SPECTRUM DISORDERS

National Autism Center

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We have endeavored to build consensus among experts from diverse fields of study and theoretical orientation. We collaboratively determined the strategies used to evaluate the literature on the treatment of Autism Spectrum Disorders. In addition, we jointly determined the intended use of this document. We used a systematic process to provide all of our experts multiple opportunities to provide feedback on both the process and the document. Given the diversity of perspectives held by our experts, the information contained in this report does not necessarily reflect the unique views of each of its contributors on every point. We are pleased with the spirit of collaboration these experts brought to this process.

IN MEMORY OF EDWARD G. CARR, PH.D., BCBA

This report is dedicated to the memory of Dr. Ted Carr, an internationally recognized leader in the treatment of Autism Spectrum Disorders and in the field of Positive Behavior Supports.

From the outset, Ted was a major contributor to the National Standards Project. He played a pivotal role in shaping the methodology used in the Project. Ted understood that the value of the National Standards Project was based not only on the scientific validity of its design and implementation, but also on its social validity within the broader community. We are grateful to Ted for his insightful input, and his persistent focus on ensuring that this document be useful to families, educators, and service providers.

Throughout his career, Ted often led the charge for the intelligent care and compassionate and respectful treatment of individuals with Autism Spectrum Disorders and other developmental disabilities. We at the National Autism Center, along with countless organizations and professionals throughout the world, will miss him and keenly feel his loss.

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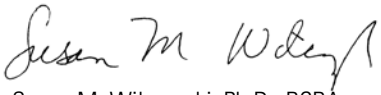
Acknowledgments

There are many challenges in undertaking a project of this nature. A series of complex decisions must be made over the course of several years that influence the usefulness of the final document. I would like to take the opportunity to thank the extraordinary number of professionals, family members, and organizations that have made this task easier.

I have had the good fortune to receive feedback from family members and individuals on the autism spectrum at the numerous conferences at which I have discussed the National Standards Project. Your input has influenced both the process we have used and this final document. I hope you continue to provide us feedback as we develop future editions of the National Standards Project. I have also received feedback at these conferences from professionals representing different fields of expertise and theoretical orientations. These professionals grapple with the very complicated process of providing best practices in homes, schools, and communities. Thank you for your assistance and your sustained input to the National Standards Project.

I am also grateful to the professionals and lay members of the autism community who provided very detailed feedback at various stages of this project. It would be hard to overstate the importance of your contributions. Your disparate views aided in the development of the review process and the completion of this document. Many of you are identified in our contributors section. I appreciate the consistent support of our expert panelists and conceptual reviewers who contributed tirelessly throughout this process. The input of families and professionals was also essential to the development of this project.

The National Standards Project could not have been completed without an important group of organizations and individuals. We appreciate both their willingness to underwrite the costs associated with the project and their consistent neutrality regarding the outcomes reported in this document. May Institute has supported the National Standards Project from its inception. Most costs associated with the first plenary session which began the development of this project were provided by the Autism Education Network (AEN). Without the support of Michelle Waterman and Janet Lishman of AEN, the early development of this project would have been far more challenging. Additional costs for the project were underwritten by the California Department of Developmental Services. We also appreciate the support and feedback we received from the Oversight and Advisory Committees through the California Department of Developmental Services and the professionals involved in the "Autism Spectrum Disorders: Guidelines for Effective Interventions" document that will be available soon.



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1 Introduction

About the National Standards Project

This report provides comprehensive information about the level of scientific evidence that exists in support of the many educational and behavioral treatments currently available for individuals with Autism Spectrum Disorders (ASD).

According to the Centers for Disease Control and Prevention (2007), approximately one in every 150 children has an ASD. As the number of children diagnosed with ASD continues to skyrocket, so do the number of treatment options. Families, educators, and service providers must sift through a massive amount of confusing and often conflicting information about the myriad treatments available. This reality makes treatment selection complicated. Uncertainty about the level of research support associated with different treatments makes the process even more difficult. To make the most informed choices, decision makers must be able to determine which treatments have evidence of effectiveness.[1]

The best way to determine if a particular treatment is effective is to look at research that has been conducted. There are a multitude of behavioral or educational treatments currently available for ASD. These interventions differ dramatically in terms of the quantity, quality, and consistency of research studies specific to the ASD population.

[1] Professionals often describe a treatment as "effective" when it has been shown to work in real world settings such as home, school, and community. For the purposes of this report, the word "effective" refers to studies conducted in real world, clinical, and research settings.

In summary, the National Standards Project, a primary initiative of the National Autism Center, seeks to:

- provide the strength of evidence supporting educational and behavioral treatments that target the core characteristics of these neurological disorders
- describe the age, diagnosis, and skills/behaviors targeted for improvement associated with treatment options
- identify the limitations of the current body of research on autism treatment
- offer recommendations for engaging in evidence-based practice for ASD

Who will benefit from national standards?

We believe that parents, caregivers, educators, and service providers who must make complicated decisions about treatment selection will benefit from national standards. These individuals deserve to have current, reliable, and easily accessible information when making important treatment decisions.

Financial Considerations

With the growing numbers of children diagnosed with ASD, families, along with school, medical, and social service systems, are financially overburdened. At the same time, state and federal funding for treatment is often limited. The societal costs for each individual with ASD across the lifespan is estimated at 3.2 million dollars (Ganz, 2007). With effective treatment, the lifetime costs can be reduced by 65% (Jarbrink & Knapp, 2001). In light of these facts, many families, schools, and medical and social service systems are choosing to invest their resources on treatments for autism that have already been scientifically established as effective.

It is not our goal to dictate what choices people make, but to provide enough information to allow them to make informed treatment decisions for themselves.

About the National Autism Center

The National Autism Center is dedicated to serving children and adolescents with Autism Spectrum Disorders (ASD) by providing reliable information, promoting best practices, and offering comprehensive resources for families, practitioners, and communities.

An advocate for evidence-based treatment approaches, the National Autism Center identifies effective programming and shares practical information with families about how to respond to the challenges they face. The Center also conducts applied research as well as develops training and service models for practitioners. Finally, the Center works to shape public policy concerning ASD and its treatment through the development and dissemination of national standards of practice.

Guided by a Professional Advisory Board, the Center brings concerned constituents together to help individuals with ASD and their families pursue a better quality of life.

2 History of Clinical Guidelines

Evidence-based practice has become the standard in the fields of medicine, psychology, education, and allied health. The idea that decision makers should know how much research supports a treatment that is being considered has also been important in the field of Autism Spectrum Disorders (ASD).

For example, in 1999, the New York State Department of Health, Early Intervention Division published clinical practice guidelines concerning the treatment of very young children with ASD. In 2001, the National Research Council's Committee on Educational Interventions for Children with Autism published a report that attempted to identify the best available treatment programs.

The existing clinical guidelines are limited in several ways:

- These previous guidelines are now outdated because reviews were completed before the turn of the 21st century.
- The reviews did not include all educational and behavioral treatment studies for a broad age range or a variety of ASD diagnoses.
- Evidence-based practice guidelines have evolved. It is commonly agreed that greater transparency should occur regarding the process used to identify the level of research support available for different treatment options. In some cases, earlier guidelines did not always specify every detail used to make these determinations. Although less specificity sometimes produces a document that is easier to understand, evidence-based practice guidelines now tend to show each aspect of decision making.

The National Standards Report addresses these limitations in the followings ways:

- We have completed a thorough review of the educational and behavioral treatment literature that targets the core characteristics and associated symptoms of ASD; this literature was published between 1957 and the fall of 2007.
- We have provided information about treatment effectiveness based on age, diagnostic groups, and treatment targets.
- We have tried to make the process completely transparent. We have presented information and solicited feedback from parents and professionals at national and international conferences. We have also received input from a cross-disciplinary group of experts in order to maintain the highest levels of transparency with many professional groups who serve children with ASD.

3 Overview of the National Standards Project

What is the Purpose?

The National Standards Project serves three primary purposes:

1. To identify the level of research support currently available for educational and behavioral interventions used with individuals (below 22 years of age)[1] with Autism Spectrum Disorders (ASD). These interventions address the core characteristics of these neurological disorders. Knowing levels of research support is an important component in selecting treatments that are appropriate for individuals on the autism spectrum. We also seek to identify whether or not the favorable outcomes reported are extended to all treatment targets, age groups, and diagnostic groups.
2. To help parents, caregivers, educators, and service providers understand how to integrate critical information in making treatment decisions. Specifically, evidence-based practice involves the integration of research findings with {a} professional judgment and data-based clinical decision making, {b} values and preferences of families, and {c} assessing and improving the capacity of the system to implement the intervention with a high degree of accuracy.
3. To identify limitations of the existing treatment research involving individuals with ASD. Even when a treatment has been established as effective, it may require more investigation in order to extend favorable outcomes to all age groups, diagnostic groups, or skills/behaviors that may be targeted for improvement.

We hope that the National Standards Project will help individuals with ASD, their families, caregivers, educators, and service providers to select treatments that support people on the autism spectrum in reaching their full potential.

[1] For the purpose of this report, we use the phrase "individuals with Autism Spectrum Disorders" to refer to individuals on the autism spectrum who are under 22 years of age.

What was the Process?

Developing the Model

The National Standards Project began with the development of a model for evaluating the scientific literature involving the treatment of ASD by a working group consisting of Pilot Team 1 and outside consultation from methodologists[2]. The process for the initial development of the National Standards Project is outlined in Flowchart 1. We developed a model based on an examination of evidence-based practice guidelines from other health and psychology fields[3] as well as from 25 experts (see expert panel) attending planning sessions for the National Standards Project. This model was sent to the original experts as well as an additional 20 experts (see conceptual reviewers) who represent diverse fields of study and theoretical orientations. The model was modified based on their feedback and then served as the foundation for data collection procedures.

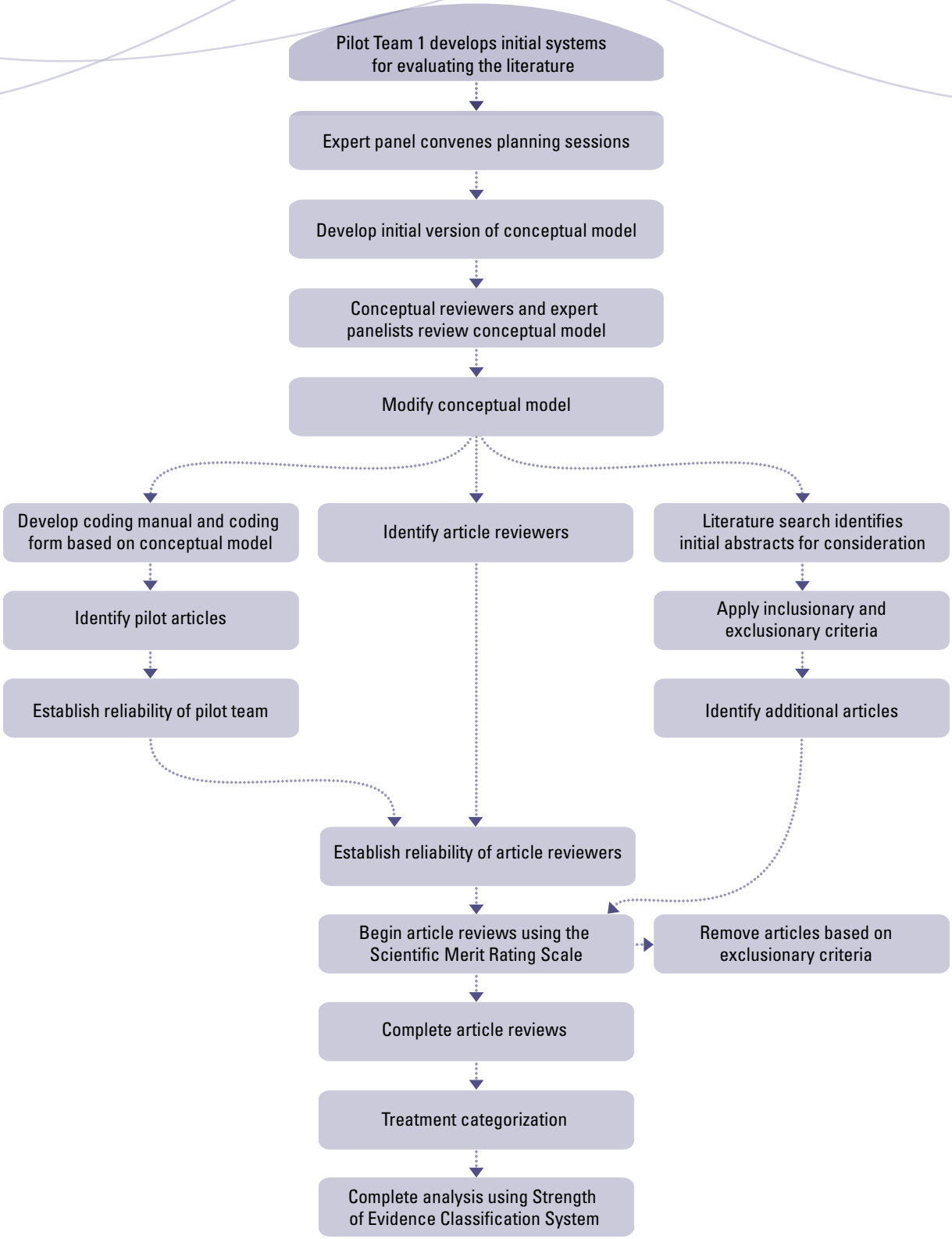
Identifying the Research

We identified a total of 6,463 abstracts through search engines, and 575 additional abstracts were identified by the expert panelists, conceptual reviewers, attendees of national autism conferences, and a review of recent book chapters. Inclusion and exclusion criteria were applied to a total of 7,038 abstracts, resulting in the removal of 5,978 articles from consideration for the National Standards Project. The vast majority of these articles were {a} unrelated to autism, {b} unrelated to the treatment of autism, and/or {c} not empirical articles. Additional reasons for exclusion were related to our inclusionary/exclusionary criteria (see below).

[2] The pilot team relied on the following sources: Sidman (1960); Johnston & Pennypacker (1993); Kazdin (1982; 1998); New York State Department of Health, Early Intervention Program (1999) and; Task Force on Promotion and Dissemination of Psychological Procedures (1995).

[3] These systems were developed based on an examination of previous evidence-based practice guidelines including the Agency for Healthcare Research and Quality (West, King, Carey, Lohr, McKoy et al., 2002), American Psychological Association Presidential Task Force on Evidence-Based Practice (2003), and the Task Force on Evidence-Based Interventions in School Psychology (APA, 2005). These were also based on an examination of publications about evidence-based practice by authors {a} Chambless, Baker, Baucom, Beutler, Calhoun, Crits-Christoph, et al., (1998) and {b} Horner, Carr, Halle, McGee, Odom, & Wolery (2005).

Flowchart 1} Process of the Initial Development of the National Standards Project



This process yielded a total of 1,060 articles for review by field reviewers. An additional 413 articles were removed after they were examined in greater detail by field reviewers and, in consultation with the chair of the National Standards Project, deemed to fall outside the inclusionary criteria for the National Standards Project. An additional 77 articles were later identified for inclusion by expert panelists, conceptual reviewers, and conference attendees who were asked to review the list. This process resulted in a total of 724 articles. Because more than one study was published in several of these articles, a total of 775 studies were retained for final analyses.

Inclusionary and Exclusionary Criteria

The National Standards Project is a systemic review of the behavioral and educational peer-reviewed[4] treatment literature involving individuals with ASD under the age of 22. These studies targeted the core characteristics and associated symptoms of ASD. For the purposes of this review, ASD were defined to include Autistic Disorder, Asperger's Syndrome, and Pervasive Developmental Disorder–Not Otherwise Specified (PDD-NOS). Individuals with Rett's Disorder and Childhood Disintegrative Disorder were not included because {a} we adopted the criteria for ASD used by the Centers for Disease Control and Prevention, {b} the developmental trajectory is often different for these groups, and {c} there is controversy in the field about whether or not these should be considered in the same category with Autistic Disorder, Asperger's Syndrome, and PDD-NOS.

Participants who were identified as "at risk" for an ASD were not included in this review. Children who are considered "at risk" do not have a formal diagnosis; we elected to restrict our review only to the literature specifically related to ASD. The results for children who are "at risk" may be very different than those expected for the diagnosed population, so including these studies could skew the results. Individuals described as having "autistic characteristics" or "a suspicion of ASD" were also not

[4] Peer review is a term describing the scientific process used to publish studies. This means these studies have undergone the scrutiny of experts before publication. These experts identify an article as worthy of publication under two conditions. First, the scientific methods used in the article must meet a minimum criterion for scientific usefulness. Second, articles are sometimes published when the scientific methods are not especially good but the results are thought-provoking enough that it might inspire researchers to conduct better research in the area.

Methodological Implications

It is common practice in guidelines of this nature to focus on a specific population (e.g., ASD). However, there are implications that should be noted when this decision is made. By focusing treatment findings exclusively on ASD, we excluded many treatment studies involving the general population. Had these studies been included in the review, the interpretation of findings specific to individuals with ASD could have been different from the overall conclusions drawn for the autism population. Some examples follow:

- A study involving single-subject research design in which the results are replicated across multiple participants (e.g., multiple baseline across participants design) can be very powerful. However, if only one participant with ASD is identified, our ability to draw firm conclusions about treatment effectiveness for individuals with ASD is greatly reduced. Effectively, the results are interpreted as if an AB design were employed because we can only interpret the outcomes for the individual with ASD. An AB design is a much weaker research design, making study results specific to ASD weak as well. In this case, the study was retained, but only the portion of the results involving the participant with ASD was analyzed.
- A study involving group design may have been published to show a treatment is not effective. Separate analyses were not available for individuals with ASD. Because the results for individuals with ASD could not be separated from the overall effects, the study was excluded from the National Standards Project. This study did not sufficiently inform us about treatment effectiveness specific to individuals on the autism spectrum. However, it is still extremely important for professionals to be aware of these results. This is a key example of why professionals must be familiar with literature beyond that described in this report.

In each case, studies with potentially important implications were either excluded, or not included in their entirety. It was important for us to follow this procedure to ensure our results apply to individuals with ASD. However, we argue that in some cases, informed users of this document may need to be familiar with both the results identified in this report and a larger literature base to guide them in the selection of treatments (see Evidence-Based Practice chapter).

included in this review. Although it is likely that many of these individuals should have been diagnosed with ASD, there is no way to know this with certainty. Individuals with other developmental disabilities may show characteristics of ASD, but a diagnosis is not actually warranted. If the treatment outcomes for individuals described as having "autistic characteristics" or "a suspicion of ASD" are different from those for individuals on the autism spectrum, the results of this review could have been compromised.

We included studies if the treatments could be implemented in or by school systems, or early intervention, home-, hospital-, and community-based programs. However, included studies were conducted in a variety of settings. An additional inclusion criterion required that individuals with ASD be the target of the treatment study. Thus, studies were not included in the review when parents, care providers, educators, or service providers were the sole target of treatment. If these adults were one target, but data were also available regarding changes in child behavior or skills, the study was retained, but only those results pertaining to the child's behavior or skills were included in the review.

In addition to these inclusion criteria, we included articles in the review if they had been published in peer-reviewed journals. Peer review requires that researchers submit their work for scrutiny by experts in their fields of study. These experts determine if an article makes an important contribution to the literature because {a} the quality of research is sufficient to allow for clear conclusions to be drawn or {b} although the scientific merit of the study may be insufficient, the topic or results are provocative enough to warrant publication to promote future research in the area. It should be noted that all articles published in peer-reviewed journals are not necessarily of equivalent quality. However, peer review increases the likelihood that studies meet the minimum requirements for scientific methodology. Journals that are not peer-reviewed may include articles that are published primarily because the author has paid for this service, thus undermining acceptable standards of scientific publication.

We also established a variety of exclusionary criteria. To begin, the National Standards Project is restricted to reviewing educational and behavioral treatments. Studies examining biomedical interventions were largely excluded. Specifically, medication trials, nutritional supplement studies, and complementary and alternative medical interventions were excluded with the exception of curative diets. We made the decision to include curative diets because professionals across a wide range of settings are often expected to implement curative diets with a high degree of fidelity.

A second exclusionary concern was related to co-morbid conditions. The National Standards Project is intended to review research specifically representing the autism spectrum. Including a review of data for research participants who have co-morbid conditions that do not commonly co-occur with ASD could skew the outcomes. For example, consider the results of a study in which ineffective or adverse treatment effects were reported. If the participants involved in the study were symptomatic of both ASD and a major medical disorder, it would be impossible to determine if the treatment was ineffective or produced adverse effects for {a} individuals with ASD *and* major medical disorders, or {b} individuals with only ASD. Including these results in our review could misrepresent the research for children and adolescents with ASD. For this reason, we included studies involving participants with co-morbid conditions only when they were common co-morbid conditions (e.g., mental retardation, language impairments, depression, anxiety, Obsessive-Compulsive Disorder, Attention Deficit Hyperactivity Disorder). We retained studies that used group research designs if separate analyses were completed for those with and without common co-morbid conditions. We excluded studies that used single-subject research designs when all participants had infrequently diagnosed co-morbid conditions, but we retained single-subject studies if at least one participant met the inclusionary criteria. Only results for participants meeting inclusionary criteria were analyzed.

A third exclusionary concern involved either the type of study or the data that were produced or presented. Specifically, we excluded articles if they did not include empirical data, if there were no statistical analyses available for studies using group research design, if there was no linear graphical presentation of data for studies using single-case research design, or if the studies relied on qualitative methods. (See the Methodological Implications section on the following page).

A fourth reason for exclusion was if a study's sole purpose was to identify mediating or moderating variables. The primary purpose of the National Standards Project is to identify which treatments have solid research evidence showing that they are effective, as opposed to when treatment effects will hold, or how/why these effects occur.

Fifth, the focus of the current version of the National Standards Report is on young individuals (i.e., individuals under 22 years of age). Articles were excluded if all participants were over the age of 22, or if a study included participants both over and under the age of 22 but for which separate analyses were not conducted for individuals under the age of 22. We anticipate the next version of the National Standards Project will expand the focus of the review to include treatments involving participants across the lifespan.

More Methodological Implications

Statistical Analyses: Statistical analysis is a commonly accepted criterion for analyzing data for group research design. If we were to include group design studies that did not use statistical analyses, there would be no generally accepted method for evaluating the scientific merit of the study or the treatment outcomes.

Linear Graphical Presentation: Not all single-subject research involves linear graphical presentation of data. However, strategies for determining treatment effectiveness based on visual analysis of linear graphs are commonly agreed upon. If we were to include single-subject research design studies that did not rely on linear graphical presentation of the data, there would be no generally accepted method for evaluating the scientific merit of the study or the treatment outcomes.

Our decision to exclude studies employing qualitative methods was initially based on consultation with a professional with expertise in qualitative research design. The vast majority of qualitative studies in treatment research focuses on identification of mediating or moderating variables (see discussion on previous page). This was not the focus of this version of the National Standards Project (NSP), so we did not include studies using a qualitative research design. In addition, it was apparent that there were an insufficient number of methodologists who had volunteered for the NSP who had adequate training in qualitative methods to satisfactorily develop an evaluation of qualitative methodology that would be consistent with that developed for single-case and group design. Therefore, we made the decision to exclude qualitative studies for the current version of the NSP, but decided to recruit experts with suitable expertise for the next version of the NSP.

Articles published exclusively in languages other than English were also excluded from the National Standards Project. We made this decision because the volunteer field reviewers did not have sufficient expertise with all non-English languages in which articles may be published. Often, when articles are published in non-English languages, the authors choose to also include them in journals published in English. This reduced the number of studies that have been excluded, but does not eliminate the problem altogether. We are hopeful we can add field reviewers for future versions of the National Standards Project who can address this exclusionary category.

Ensuring Reliability

To ensure the reviews were completed with a high degree of reliability, a pilot team (see Pilot Team 2 in contributors list) reviewed articles and made modifications to the coding manual until they could readily establish an acceptable level of agreement (interobserver agreement >.80). This criterion was met for both group and single-case research design studies.

All field reviewers were then "trained to criterion." That is, they received the coding manual and one pilot article to review. We sent a group research design pilot article to field reviewers who would be reviewing studies employing group research design. We sent a single-subject research design pilot article to field reviewers who would be reviewing studies employing single-subject research design. These pilot articles were among those for which interobserver agreement had been established by the pilot team. After examining the coding manual, field reviewers submitted an article review and established interobserver agreement to criterion (i.e., IOA>.80). We offered individuals who did not reach this criterion the opportunity to review another article to establish reliability, but all declined.

Once all articles were reviewed, we calculated interobserver agreement again for at least one randomly selected article for each reviewer. With the exception of four individuals, all field reviewers maintained an acceptable level of interobserver agreement (i.e., IOA>.80). We removed the reviews from field reviewers who did not maintain reliability. These were re-reviewed by field reviewers who sustained acceptable reliability.

About the Scientific Merit Rating Scale

We developed the Scientific Merit Rating Scale (SMRS) as a means of objectively evaluating if the methods used in each study were strong enough to determine whether or not a treatment was effective for participants on the autism spectrum. This information allows us to determine if the results are believable enough that we would expect similar results in other studies that used equal or better research methodologies.

Just because an article has been published does not mean that the outcomes are critically important. Sometimes, poorly controlled studies are published because the results are interesting enough to other scientists and the publication will encourage better-controlled research. But it is important to interpret the outcomes of these studies with a great deal of caution. A study that is very flawed may say a treatment is effective, but no reasonable scientist would be confident the outcomes are useful and accurate.

A study is described as having scientific merit when variables are so well-controlled that independent scholars can draw firm conclusions from the results. For the purposes of the National Standards Project, we applied the SMRS exclusively to individuals diagnosed with Autistic Disorder, Asperger's Syndrome, or PDD-NOS who were under the age of 22 (see inclusionary/exclusionary criteria above).

The SMRS involves five critical dimensions of experimental rigor that can be applied to determine the extent to which interventions are effective. These include: {a} research design, {b} measurement of the dependent variable, {c} measurement of the independent variable or procedural fidelity, {d} participant ascertainment, and {e} generalization.

- Research design: reflects the degree to which experimental control was demonstrated. Research design is tied to the number of participants and/or groups involved, the extent to which attrition or treatment disruption occurred, and the type of research design employed.

- **Measurement of the dependent variable**: refers to the extent to which {a} accurate and reliable data were collected and {b} these data represent the most direct and comprehensive sample of the target skill or behavior that is possible. Measurement of the dependent variable is tied to the type of measurement system used, the psychometric support and/or reliability for dependent variables, and the extent to which evaluators were blind and/or independent when tests, scales, or checklists served as the dependent variables.
- **Measurement of independent variable**: describes the extent to which treatment fidelity was adequately established. Treatment fidelity is tied to implementation accuracy, the percentage and type of sessions during which data were collected, and the extent to which treatment fidelity was reliably measured.
- **Participant ascertainment**: refers to the degree to which well-established diagnostic tools and procedures were used to determine eligibility for participant inclusion in the study and the extent to which diagnosticians and evaluators were independent and/or blind to the treatment conditions. Participant ascertainment is also tied to the use of Diagnostic and Statistical Manual for Mental Disorders or International Classification of Diseases criteria.
- **Generalization**: is defined as the extent to which researchers attempted to objectively demonstrate the spread of treatment effects across time, settings, stimuli, responses, or persons. Generalization is also tied to the type of data collected (e.g., objective versus subjective).

The criteria for each rating on the SMRS are outlined in Table 1.

Table 1} Scientific Merit Rating Scale

SMRS} Rating 5

Research Design		Measurement of Dependent Variable		Measurement of Independent Variable *(procedural integrity or treatment fidelity)*	Participant Ascertainment	Generalization of Tx Effect(s)
Group	**Single-subject[a]**	**Test, scale, checklist, etc.**	**Direct behavioral observation**			
Number of groups: two or more Design: Random assignment and/or no significant differences pre-Tx Participants: n > 10 per group or sufficient power for lower number of participants Data Loss: no data loss	A minimum of three comparisons of control and treatment conditions Number of data points per condition: > five Number of participants: > three Data loss: no data loss possible	Type of measurement: Observation-based Protocol: standardized Psychometric properties solid instrument Evaluators: blind and independent	Type of measurement: continuous or discontinuous with calibration data showing low levels of error Reliability: IOA ≥ 90% or kappa > .75 Percentage of sessions: Reliability collected in ≥ 25% Type of conditions in which data were collected: all sessions	Implementation accuracy measured at ≥ 80% Implementation accuracy measured in 25% of total sessions IOA for treatment fidelity ≥ 80%	Diagnosed by a qualified professional Diagnosis confirmed by independent and blind evaluators for research purposes using at least one psychometrically solid instrument DSM or ICD criteria or commonly accepted criteria during the identified time period reported to be met	Objective data Maintenance data collected AND Generalization data collected across at least two of the following: setting, stimuli, persons

SMRS} Rating 4

Research Design		Measurement of Dependent Variable		Measurement of Independent Variable *(procedural integrity or treatment fidelity)*	Participant Ascertainment	Generalization of Tx Effect(s)
Group	**Single-subject[a]**	**Test, scale, checklist, etc.**	**Direct behavioral observation**			
Number of groups: two or more Design: Matched groups; No significant differences pre-Tx; or better design Participants: n > 10 per group or sufficient power for lower number of participants Data Loss: some data loss possible	A minimum of three comparisons of control and treatment conditions Number of data points per condition: > five Number of participants: > three Data loss: some data loss possible	Type of measurement: Observation-based measurement Protocol: standardized Psychometric properties sufficient Evaluators: blind OR independent	Type of measurement: continuous or discontinuous with no calibration data Reliability: IOA ≥ 80% or kappa > .75 Percentage of sessions: Reliability collected in ≥ 25% Type of conditions in which data were collected: all sessions	Implementation accuracy measured at ≥ 80% Implementation accuracy measured in 20% of total session for focused interventions only IOA for treatment fidelity: not reported	Diagnosis provided/confirmed by independent and blind evaluators for research purposes using at least one psychometrically sufficient instrument	Objective data Maintenance data collected AND Generalization data collected across at least one of the following: setting, stimuli, persons

SMRS} Rating 3

Research Design		Measurement of Dependent Variable		Measurement of Independent Variable *(procedural integrity or treatment fidelity)*	Participant Ascertainment	Generalization of Tx Effect(s)
Group	**Single-subject[a]**	**Test, scale, checklist, etc.**	**Direct behavioral observation**			
Number of groups: two or more Design: Pre-Tx differences controlled statistically or better design Data loss: some data loss possible	A minimum of two comparisons of control and treatment conditions Number of data points per condition: > three Number of participants: > two Data loss: some data loss possible	Type of measurement: Observation-based measurement Protocol: non-standardized or standardized Psychometric properties adequate Evaluators: neither blind nor independent required	Type of measurement: continuous or discontinuous with no calibration data Reliability: IOA ≥ 80% or kappa > .4 Percentage of sessions: Reliability collected in ≥ 20% Type of conditions in which data were collected: all or experimental sessions only	Implementation accuracy measured at ≥ 80% Implementation accuracy measured in 20% of partial session for focused interventions only IOA for treatment fidelity: not reported	Diagnosis provided/confirmed by independent OR Blind evaluator for research purposes using at least one psychometrically adequate instrument OR DSM criteria confirmed by a qualified diagnostician or independent and/or blind evaluator	Objective data Maintenance data collected OR Generalization data collected across at least one of the following: setting, stimuli, persons

SMRS} Rating 2

Research Design		Measurement of Dependent Variable		Measurement of Independent Variable *(procedural integrity or treatment fidelity)*	Participant Ascertainment	Generalization of Tx Effect(s)
Group	**Single-subject[a]**	**Test, scale, checklist, etc.**	**Direct behavioral observation**			
Number of groups and Design: If two groups, pre-Tx difference not controlled or better research design OR A one group repeated measures pre-test/post-test design Data Loss: significant data loss possible	A minimum of two comparisons of control and treatment conditions Number of data points per Tx condition: > three Number of participants: > two Data loss: significant data loss possible	Type of measurement: Observation-based or subjective Protocol: non-standardized or standardized Psychometric properties modest Evaluators: neither blind nor independent required	Type of measurement: continuous or discontinuous with no calibration data Reliability: IOA ≥ 80% or kappa > .4 Percentage of sessions: Not reported Type of conditions in which data were collected: not necessarily reported Operational definitions are extensive or rudimentary	Control condition is operationally defined at an inadequate level or better Experimental (Tx) procedures are operationally defined at a rudimentary level or better Implementation accuracy measured at ≥ 80% Implementation accuracy regarding percentage of total or partial sessions: not reported IOA for treatment fidelity: not reported	Diagnosis with at least one psychometrically modest instrument OR Diagnosis provided by a qualified diagnostician or blind and/or independent evaluator with no reference to psychometric properties of instrument	Subjective data Maintenance data collected AND Generalization data collected across at least 1 of the following: setting, stimuli, persons

SMRS} Rating 1

Research Design		Measurement of Dependent Variable		Measurement of Independent Variable *(procedural integrity or treatment fidelity)*	Participant Ascertainment	Generalization of Tx Effect(s)
Group	**Single-subject**[a]	**Test, scale, checklist, etc.**	**Direct behavioral observation**			
Number of groups and Design: two group, post-test only or better research design OR retrospective comparison of one or more matched groups Data loss: significant data loss possible	A minimum of two comparisons of control and treatment conditions Number of participants: > one Data loss: significant data loss possible	Type of measurement: Observation-based or subjective Protocol: non-standardized or standardized Psychometric properties weak Evaluators: Neither blind nor independent required	Type of measurement: continuous or discontinuous with no calibration data Type of conditions in which data were collected: not necessarily reported Operational definitions are extensive or rudimentary	Control condition is operationally defined at an inadequate level or better Experimental (Tx) procedures are operationally defined at a rudimentary level or better IOA and procedural fidelity data are unreported	Diagnosis provided by {a} review of records OR {b} instrument with weak psychometric support	Subjective or subjective supplemented with objective data Maintenance data collected OR Generalization data collected across at least one of the following: setting, stimuli, persons

SMRS} Rating 0

Does not meet criterion for a score of 1	Does not meet criterion for a score of 1	Does not meet criterion for a score of 1	Does not meet criterion for a score of 1	Does not meet criterion for a score of 1	Does not meet criterion for a score of 1	Does not meet criterion for a score of 1

[a] For all designs except alternating treatments design (ATD). For an ATD, the following rules apply:

{5} Comparison of baseline and experimental condition; ≥ five data points per experimental condition, follow-up data collected, carryover effects minimized through counterbalancing of key variables (e.g., time of day), and condition discriminability; n ≥ three; no data loss
{4} Comparison of baseline and experimental condition; ≥ five data points per experimental condition; carryover effects minimized through counterbalancing of key variables (e.g., time of day), OR condition discriminability; n ≥ three; some data loss possible
{3} ≥ five data points per condition, carryover effects minimized counterbalancing of key variables OR condition discriminability; n ≥ two; some data loss possible
{2} ≥ five data points per condition; n ≥ two; significant data loss possible
{1} ≥ five data points per condition; n ≥ one; significant data loss possible
{0} Does not meet criterion for a score 1

For each of the five dimensions of scientific merit, a score between zero and five (0-5) was assigned with 0 representing a poor score and 5 representing a strong score. The dimension scores were combined to yield a composite score that was rounded to the nearest whole number; this was called the SMRS score. The formula for combining these dimensions is as follows: Research Design (.30) + Dependent Variable (.25) + Participant Ascertainment (.20) + Procedural Integrity (.15) + Generalization (.10).

- SMRS scores of 3, 4, or 5 indicate that sufficient scientific rigor has been applied. We can therefore draw firm conclusions about the treatment effects specific to participants with ASD that were demonstrated in the study. These scores suggest that similar results would likely be obtained in a study that used equal or better research methods.
- SMRS scores of 2 provide initial evidence about treatment effects. However, more rigorous research must be conducted to confirm these same effects would likely occur when more rigorous procedures are applied to other individuals with ASD.
- SMRS scores of 0 or 1 indicate that insufficient scientific rigor has been applied to the population of individuals with ASD. There is insufficient evidence to even suggest whether a treatment may or may not have beneficial, ineffective, or harmful effects.

Note that the scores reported in this document are specific to ASD. This is important because a study may, in fact, have a much higher SMRS score if a broader category of participants involved in the study was considered. That is, a well-designed study that used adequate dependent variables, provided evidence of procedural integrity, and involved maintenance and/or generalization data may actually receive a lower score in this report if most of the participants were described only as having "developmental disabilities" and only one participant was described as having a diagnosis of autism without reporting rigorous participant ascertainment procedures.

We encourage researchers and practitioners to be aware of the data supporting or failing to support the effectiveness of the treatments beyond the ASD literature to supplement their decision making. The purpose of this document, however, is restricted to the ASD population so families, educators, and service providers may gain a better sense of the level of research support specific to the ASD population.

Treatment Effects Ratings

In addition, each study was examined to determine if the treatment effects were: {a} beneficial, {b} ineffective, {c} adverse, or {d} unknown.

- Beneficial is identified when there is sufficient evidence that we can be confident favorable outcomes resulted from the treatment.
- Unknown is identified when there is not enough information to allow us to confidently determine the treatment effects.
- Ineffective is identified when there is sufficient evidence that we can be confident favorable outcomes did not result from the treatment.
- Adverse is identified when there is sufficient evidence that the treatment was associated with harmful effects.

Separate criteria were developed for group research design, single-subject research design, and alternating treatments design (a type of single-subject research design).

- For group research design, we classified treatment effects based on whether or not statistically significant differences were reported. If statistically significant results were not reported, we evaluated if the research design increased the likelihood that an effect would be found.
- For single-subject research design, we classified treatment effects based on whether or not a functional relationship was established, as well as on the number of treatment effects that were attempted and demonstrated. In the case of Ineffective treatment effects, we determined that additional criteria must be met (e.g., a sufficient number of data points and participants, the extent to which comparison conditions sufficiently demonstrated a steady state or appropriate trend line to allow for comparison, etc.). In order to be classified as having Adverse treatment effects, we determined that sufficient rigor must have been employed to identify an effect, and a negative relationship had to be shown.
- For alternating treatments design (ATD), which is a special type of single-subject research design, we classified treatment effects based on the extent to which

separation was reported, carryover effects were minimized, and number of data points was sufficient. In the case of Ineffective treatment effects, we determined that additional criteria had to be met (e.g., baseline data were collected and a change from baseline to intervention was not evidenced for most participants). In order to be classified as having Adverse treatment effects, we determined that sufficient rigor must have been employed to identify an effect, and a negative relationship had to be shown in relation to baseline data.

See Table 2 for details of the Treatment Effects Ratings.

Separate scores are required to determine scientific merit and treatment effects because they tap into separate but equally important concerns related to each study. For example, a study could have a very strong research design (high scientific merit), but show that the treatment was actually ineffective. Decision makers should be aware of a finding of this type. Similarly, a study could have a relatively weak research design (lower scientific merit), but show that the treatment was effective. Scientists would not necessarily believe the treatment was actually effective in this case because the outcomes could be due to some factor other than the treatment (e.g., the passage of time, some unknown variable that was not accounted for in the study, etc.).

Table 2} Treatment Effects Ratings

Beneficial Treatment Effects Reported	Unknown Treatment Effects Reported	Ineffective Effects Reported	Adverse Treatment Effects Reported
Single: A functional relation is established and is replicated at least two times	**For all research designs:** The nature of the data does not allow for firm conclusions about whether the treatment effects are beneficial, ineffective, or adverse	**Single:** A functional relation was not established and {a} results were not replicated but at least two replications were attempted {b} a minimum of five data points were collected in baseline and treatment conditions {c} a minimum of two participants were included {d} a fair or good point of comparison (e.g., steady state) existed	**Single:** A functional relation is established and is replicated at least two times The treatment resulted in greater deficit or harm on the dependent variable based on a comparison to baseline conditions
ATD: Moderate or strong separation between at least two data series for most participants Carryover effects were minimized A minimum of five data points per condition		**ATD:** No separation was reported and baseline data show a stable pattern of responding during baseline and treatment conditions for most participants	**ATD:** Moderate or strong separation between at least two data series for most participants Carryover effects were minimized A minimum of five data points per condition Treatment conditions showed the treatment produced greater deficit or harm for most or all participants when compared to baseline
Group: Statistically significant effects reported in favor of the treatment		**Group:** No statistically significant effects were reported with sufficient evidence an effect would likely have been found* *The criterion includes: {a} there was sufficient power to detect a small effect {b} the type I error rate was liberal, {c} no efforts were made to control for experiment-wise Type I error rate, and {d} participants were engaged in treatment	**Group:** Statistically significant finding reported indicating a treatment resulted in greater deficit or harm on any of the dependent variables

Identifying and Describing Treatments

Once field reviewers coded all the studies, we combined the results of the SMRS and the Treatment Effects Ratings to identify the level of research support currently available for each educational and behavioral intervention we examined. We identified 38 treatments. The term "treatment" may represent either intervention strategies (i.e., therapeutic techniques that may be used in isolation) or intervention classes (i.e., a combination of different intervention strategies that hold core characteristics in common). Whenever possible, we combined intervention strategies into intervention classes to lend clarity regarding the effectiveness of the treatment. When this was not possible, we reported results on isolated intervention strategies.

Treatment Classification

Treatments can be classified in many ways. For example, a treatment could have a name that appears in the research literature, or a treatment could have a name that is used in popular media. Many treatments do not easily lend themselves to a simple label. Often, different components of interventions are combined to make a new composite intervention, but no label is ever given to the composite. This can make communicating about these interventions complicated and very challenging. Further, there are instances in which two interventions are very similar or are regulated by the same mechanism, but have different names. To best understand how much research support is available for the treatment approach, it would be best to find a way to combine the two interventions. But again, what label should be applied?

We tried to satisfactorily combine intervention strategies into treatment categories so parents, educators, and service providers could have a better understanding of the level of research support available for different treatment approaches specific to the ASD population. We developed these categories so, wherever reasonable, we could combine treatment approaches that were substantially similar or held core characteristics in common.

- In some cases, we could combine only a small number of intervention articles. If we were to expand the category to add more articles, the treatment category would no longer make sense.
- In other cases, we could combine a large number of intervention articles. If we were to shrink the category so all categories were approximately the same size, the treatment category would no longer make sense.
- In some cases, the treatment category targets a small number of skills or behaviors (e.g., personal responsibility or academics) because the purpose of the treatment is very focused or targeted.
- In other cases, the treatment category targets a large number of skills or behaviors and draws from research published by comprehensive treatment programs.

We strove to combine interventions into treatment categories so they would make the most sense (see Treatment Classification Example on page 30). The chair of the National Standards Project began by examining all of the article reviews completed by field reviewers and identifying if the studies could reasonably be clustered together. That is, she examined how they could be arranged so the interventions contained within the category represented a treatment approach that did not overlap with other treatment categories. If treatment categories overlapped, it would lead to an inflated representation of the scientific literature published to date[5]. The chair sent the treatment categories to the expert panel and the conceptual reviewers in the context of a first draft of this report. A total of 71 treatment categories were proposed in that draft. These scholars provided feedback on how to reorganize the treatment categories. The

[5] Even choosing to have non-overlapping categories presented a challenge. As one example, Pivotal Response Treatments (PRT) is an Established Treatment. We placed studies in this category only when the term 'pivotal response' or 'natural language paradigm' appeared in the article. However, the originators of this approach have conducted research that is consistent with PRT that was classified elsewhere in the report (e.g., antecedent package, behavioral package, naturalistic teaching strategies, and self-management). It would likely be an impossible task to accurately identify each of the possible ways different literature bases might be tied together (as in the PRT example). Instead we offer this single example to illustrate that, despite the fact that we have categorized these treatments, additional meaningful relationships between these treatments may exist.

second draft of this report contained 41 treatment categories. Feedback delivered after the second draft suggested a few of the treatment categories could be further combined in a meaningful way. Thus, the final draft of the National Standards Report includes a total of 38 treatments. A listing of the articles associated with each of these 38 treatments can be found in Appendix 1.

Although these 38 treatment categories represent unique approaches to treatment, we understand that more details may be desirable to some readers. It is our goal to break these treatment categories down into even further detail in future documents.

After developing definitions for the treatment categories, the chair of the National Standards Project classified all treatment studies. The methodology for articles representing treatments that did not fit perfectly into one of the existing categories was examined by more than one of our experts to derive consensus on treatment categorization. A research assistant classified approximately five percent of the total number of studies that were randomly selected to establish reliability. Reliability in the form of interobserver agreement was .92 for treatment categorization.

The names we provided for these treatment categories may be unfamiliar to some individuals. This may require the reader to look closely at the definitions we have applied to see how our categories relate to terms with which s/he is familiar. Wherever possible, we have included a popular or research term associated with a treatment in the categories of treatments we have identified. We have also listed these terms in the index.

There are several reasons some familiar treatment names may not appear in this table. First, we grouped similar treatments together, so the name that is most familiar to the reader may appear only in the definition of the larger category. Please read each description carefully. Second, many educational and behavioral treatments may be well-known but still lack scientific evidence. In this case, the name would not appear because, as of September 2007, no studies had been published in peer-reviewed journals. If no treatment studies have been published in peer-reviewed journals, it means that the scientific process that is used in all scientific fields has not been followed. This means it would fall into the "Unestablished" category of the Strength of Evidence Classification System.

Treatment Classification Example

We hope the following example illustrates the complexities and challenges of the decision-making process regarding treatment categorization.

Throughout this process, many of our experts (expert panelists and conceptual reviewers) forwarded a number of conflicting suggestions regarding treatment categorization. Some of our experts believe that, in some cases, treatments should be broken down into somewhat smaller units; others believe they should be further combined into larger units. We look forward to continued feedback from these experts and from the autism community as we prepare to write the next version of the National Standards Project.

There is no absolute scientific process for determining if treatment categories "make sense." We made the first decisions based on similarity of treatment procedures. However, we also had to make a second set of decisions. Specifically, did the treatment categories lead to an accurate representation of the literature?

For example, imagine a case in which we have a separate category for an intervention (let's call it "Intervention V"). There are over 50 studies on Intervention V, but most of these studies involved Intervention V plus at least one other intervention strategy. We cannot put all of these studies in the analysis and call it Intervention V because we do not know if the outcomes of the research are due to Intervention V, or Intervention V plus other treatment components. If we analyze only the "pure" examples of Intervention V, we would say that the treatment is Unestablished (because there are not enough studies to qualify as anything else). This does not seem to accurately represent this treatment because there are over 50 studies that show the treatment is effective when combined with other components. We might then reexamine all of our treatment categories and determine if Intervention V is actually a reasonable subcategory of a larger treatment category. This decision would require deliberation and feedback from our experts to ensure that Intervention V should reasonably be combined into this larger treatment category. Once we determine that the combined category is reasonable, the 50+ studies on Intervention V are included in the larger category. The subsequent analyses better represent the treatment literature than the alternate solutions. Finally, we endeavored to organize the treatments based on information that is often available to parents, educators, and service providers. In most cases, we categorized treatments by intervention strategies. However, in rare cases, the factor that distinguished the category was not related to the specific intervention strategies (e.g., skills or behaviors that were targeted or use of technology).

Strength of Evidence Classification System

After we identified the treatments, we applied the Strength of Evidence Classification System criteria. The Strength of Evidence Classification System can be used to determine how confident we should be about the effectiveness of a treatment. Ratings reflect the quality, quantity, and consistency of research findings for each type of intervention.

There are four categories in the Strength of Evidence Classification System.[6] Table 3 identifies the criteria associated with each of the ratings.

Strength of Evidence ratings reflect the quality, quantity, and consistency of research findings that have been applied specifically to individuals with ASD. As stated previously, the "quality" of a study is important because some research designs do not actually shed much light on whether or not a treatment is effective. "Quantity" is important because a single study, no matter how well-designed, will never be able to tell us absolutely if a treatment is truly effective. "Consistency" is important because, if a treatment is truly effective, we would expect it to consistently show beneficial effects. Of course, even interventions that are truly effective may occasionally appear to be ineffective in a study just by chance — so we have built this chance into the Strength of Evidence Classification System. See the footnote in Table 3 for details.

[6] The Strength of Evidence Classification System was modified to its current four-point format to ease interpretation of outcomes for the general public. Although the Strength of Evidence Classification System was modified from a six-point format, the interpretation of outcomes remains identical across formats. For example, all treatments that were previously identified as having sufficient evidence of effectiveness did not vary across the two systems.

Table 3} Strength of Evidence Classification System

Established	Emerging	Unestablished	Ineffective/Harmful
Several[a] published, peer-reviewed studies • SMRS scores of 3, 4, or 5 • Beneficial treatment effects for a specific target These may be supplemented by studies with lower scores on the Scientific Merit Rating Scale.	Few[b] published, peer-reviewed studies • SMRS scores of 2 • Beneficial treatment effects reported for one dependent variable for a specific target These may be supplemented by studies with higher or lower scores on the Scientific Merit Rating Scale.	May or may not be based on research • Beneficial treatment effects reported based on very poorly controlled studies (scores of 0 or 1 on the Scientific Merit Rating Scale) • Claims based on testimonials, unverified clinical observations, opinions, or speculation • Ineffective, unknown, or adverse treatment effects reported based on poorly controlled studies	Several[a] published, peer-reviewed studies • SMRS scores of 3 • No beneficial treatment effects reported for one dependent measure for a specific target (Ineffective) OR • Adverse treatment effects reported for one dependent variable for a specific target (Harmful) Note: Ineffective treatments are indicated with an "I" and Harmful treatments are indicated with an "H"

[a] Several is defined as 2 group design or 4 single-subject design studies with a minimum of 12 participants for which there are no conflicting results or at least 3 group design or 6 single-subject design studies with a minimum of 18 participants with no more than 1 study reporting conflicting results. Group and single-subject design methodologies may be combined.

[b] Few is defined as a minimum of 1 group design study or 2 single-subject design studies with a minimum of 6 participants for which no conflicting results are reported.* Group and single-subject design methodologies may be combined.

*Conflicting results are reported when a better or equally controlled study that is assigned a score of at least 3 reports either {a} ineffective treatment effects or {b} adverse treatment effects.

These general guidelines can be used to interpret each of these categories:

- **Established**. Sufficient evidence is available to confidently determine that a treatment produces beneficial treatment effects for individuals on the autism spectrum. That is, these treatments are established as effective.
- **Emerging**. Although one or more studies suggest that a treatment produces beneficial treatment effects for individuals with ASD, additional high quality studies must consistently show this outcome before we can draw firm conclusions about treatment effectiveness.
- **Unestablished**. There is little or no evidence to allow us to draw firm conclusions about treatment effectiveness with individuals with ASD. Additional research may show the treatment to be effective, ineffective, or harmful.
- **Ineffective/Harmful**. Sufficient evidence is available to determine that a treatment is ineffective or harmful for individuals on the autism spectrum.

Treatment Subclassification

Process

Beyond identifying if a treatment is effective, the research community seeks to answer additional questions that could potentially impact treatment selection.

- "Have favorable outcomes been demonstrated when a specific skill or behavior is targeted for improvement with individuals on the autism spectrum?"
- "Have favorable outcomes been demonstrated with a particular age group of individuals with ASD?"
- "Have favorable outcomes been demonstrated with a specific diagnostic group (e.g., Autistic Disorder, Asperger's Syndrome, PDD-NOS)?"

The purpose of subclassifying treatments and identifying which ones are associated with favorable outcomes is to identify which relevant variables (treatment target, age group, and diagnostic group) have been the focus of treatment studies to date. This is important for two reasons. First, decision makers feel even more confident when a treatment has been associated with favorable outcomes for the treatment target, age group, or diagnostic group of interest for a specific child. Second, it identifies areas in which the existing literature might be extended by the research community. By identifying the limitations of the existing research, we hope to motivate scholars to extend our knowledge about treatments by conducting high-quality research for each of these relevant variables.

We used the following process to subclassify treatments:

1. Identify all studies associated with a given treatment.
2. Identify relevant variables in each of the studies.
   - **a.** What was the target of the treatment? Was the goal to increase a skill or decrease a behavior?
   - **b.** What were the ages of the participants?
   - **c.** To what diagnostic group (Autistic Disorder, Asperger's Syndrome, or PDD-NOS) did the participants belong?

3. Identify the SMRS Score and the Treatment Effects Ratings for each of the relevant variables for each of the studies.
4. For each relevant variable (treatment target, age group, and diagnostic group), identify the quality, quantity, and consistency of research findings across all studies for a given treatment.
5. For each relevant variable, determine if there is evidence suggesting the treatment produces favorable outcomes. We defined favorable outcomes as meeting the following criterion: a few studies with SMRS Scores of 2, 3, 4, or 5 showing beneficial treatment effects. This criterion was selected to increase the chances we would identify any variables associated with favorable outcomes.

Subcategories

Treatment Targets

There are many different skills or behaviors that are targeted for improvement when treating individuals on the autism spectrum. Some of the treatment targets seek to improve skills by increasing developmentally appropriate skills. Other treatment targets are intended to improve life functioning by decreasing behaviors. We broke down 14 treatment targets into two categories: skills increased and behaviors decreased.

Skills Increased

It is always essential for treatment providers to implement interventions to increase developmentally appropriate skills. We have identified 10 developmental skills that treatment providers may target to increase.

- **Academic**. This category represents tasks that are precursors or required for success with school activities. Dependent variables associated with these tasks include but are not restricted to preschool activities (e.g., sequencing, color, letter, number identification, etc.), fluency, latency, reading, writing, mathematics, science, history, or skills required to study or perform well on exams.

The Place of "Favorable Outcomes" in Treatment Selection

When we assign Strength of Evidence Classification ratings, it involves adding up the results of every study for each treatment. In contrast, when we subclassify studies, it involves dividing the available studies into small units based on all relevant variables. For example, for each treatment, we sub-divided the studies into small units based on 14 treatment targets, six age groups, and three diagnostic groups. When you divide studies in this many ways, the number of studies falling into each relevant variable will tend to be low. This is one reason that a treatment may be an Established Treatment but still not be associated with favorable outcomes for any specific treatment target, age group, or diagnostic group. This highlights the importance of looking at research support at two different levels. A clear hierarchy exists between these two levels with the Strength of Evidence Classification ratings being given greater importance.

- The primary question that should be asked is, "Is there evidence this treatment is effective?" This question should be answered irrespective of which, if any, variables are associated with favorable outcomes. This question is answered by the Strength of Evidence Classification System rating.
- The secondary question that can be asked is, "Is there evidence this treatment produces favorable outcomes for a specific treatment target, age group, or diagnostic group?"

It takes a large number of highly focused research studies to extend the treatment literature into each relevant variable (target of treatment, age, diagnostic group). We look forward to the scientific contributions that expand our knowledge about these relevant variables in the future.

- Communication. Communication tasks involve verbal or nonverbal signaling to a social partner regarding content of sharing of experiences, emotions, information, or affecting the partner's behavior, and behaviors that involve understanding a partner's intentional signals for the same purposes. This systematic means of communication involves the use of sounds or symbols. Dependent variables associated with these tasks include but are not restricted to requesting, labeling, receptive, conversation, greetings, nonverbal, expressive, syntax, speech, articulation, discourse, vocabulary, and pragmatics.
- Higher Cognitive Functions. These tasks require complex problem-solving skills outside the social domain. Dependent variables associated with these tasks include but are not restricted to critical thinking, IQ, problem-solving, working memory, executive functions, organizational skills, and theory of mind tasks.
- Interpersonal. The tasks comprising this category require social interaction with one or more individuals. Dependent variables associated with these tasks include but are not limited to joint attention, friendship, social and pretend play, social skills, social engagement, social problem solving, and appropriate participation in group activities. The area of pragmatics is not included in this list because it will be addressed in the communication section.
- Learning Readiness. Learning readiness tasks serve as the foundation for successful mastery of complex skills in other domains identified. Dependent variables associated with these tasks include but are not restricted to imitation, following instructions, sitting skills, and attending to environmental sounds.
- Motor Skills. Motor skills involve tasks that require coordination of muscle systems to produce a specific goal involving either fine motor or gross motor skills or visual-motor coordination. Fine motor skills require manipulation of objects using precise movements to produce the desired outcome. Examples of fine motor skills include but are not restricted to cutting, coloring, writing, typing, and threading beads. Gross motor skills involve larger muscle movements and include but are not restricted to sitting, standing, walking, and throwing/catching balls.

- Personal Responsibility. This category targets tasks that involve activities embedded in everyday routines. Dependent variables associated with these tasks include but are not restricted to feeding, sleeping, dressing, toileting, cleaning, family and/or community activities, health and fitness, phone skills, time and money management, and self-advocacy.
- Placement. Placement was coded whenever the dependent variable involves level of restriction in placement in school, home, or community settings. Examples include but are not restricted to placement in general education classroom and placement back into the home setting. Although placement is not a "skill," it represents an important accomplishment toward which treatment programs strive.
- Play. Play tasks involve non-academic and non-work-related activities that do not involve self-stimulatory behavior or require interaction with other persons. Dependent variables associated with these tasks may include but are not restricted to functional independent play (i.e., manipulation of toys to determine how they "work" or appropriate use of toys that do not involve pretense, games). Whenever social play was targeted (independently or in conjunction with make-believe play), it was placed in the "interpersonal" categories.
- Self-Regulation. Self-regulation tasks involve the management of one's own behaviors in order to meet a goal. Dependent variables associated with these tasks include but are not limited to persistence, effort, task fluency, transfer of attention, being "on schedule," self-management, self-monitoring, self-advocacy, remaining in seat (or its opposite of "out of seat"), time management, or adapting to changes in the environment.

In our outcomes section, we present information about favorable outcomes in tables. Developmentally appropriate skills that parents, educators, and service providers are likely to want to increase are listed in the "Skills Increased" section of each table (see Table 4). If favorable outcomes are identified in the literature, an "X" will appear in the box below the skill. For example, in Table 4, Treatment Z is associated with favorable outcomes when addressing both communication and interpersonal skills.

Table 4} Examples of Favorable Outcomes Based on Treatment Target to Increase Skills

Treatment Z — **Evidence Level}** Strength of Evidence Classification Rating appears here

Treatments definition appears hear.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X			

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	X

Behaviors Decreased

For some individuals on the autism spectrum, treatment providers may need to implement treatments to decrease behaviors that interfere with life functioning. We have identified four areas of challenge that treatment providers may target to decrease.

These include:

- General Symptoms. General symptoms involve a combination of symptoms that may be directly associated with ASD or may be a result of psychoeducational needs that are sometimes associated with ASD.
- Problem Behaviors. These behaviors can harm the individual or others OR result in damage to objects OR interfere with the expected routines in the community. Problem behaviors may include but are not restricted to self-injury, aggression, disruption, destruction of property, or hazardous or sexually inappropriate behaviors.
- Restricted, Repetitive, Nonfunctional Patterns of Behavior, Interests, or Activity (RRN). This category is reserved for limited, frequently repeated, maladaptive patterns of motor, speech, and thoughts. The following is a list of representative

behaviors: stereotypic and compulsive behaviors, inappropriate speech, or restricted interest.

- Sensory or Emotional Regulation (SER). Sensory and emotional regulation involves the extent to which an individual can flexibly modify his or her level of arousal or response in order to function effectively in the environment. Examples of behaviors that fall into this category include stimulus refusal, sleep disturbance, anxiety, and depression.

Behaviors that parents, educators, and service providers are likely to want to decrease are listed in the "Behaviors Decreased" section of each table (see Table 5). If favorable outcomes are identified in the literature, an "X" will appear in the box below the behavior. For example, in Table 5, Treatment Z is associated with favorable outcomes for addressing problem behaviors.

Table 5} Examples of Favorable Outcomes Based on Treatment Target to Decrease Behaviors

Treatment Z					**Evidence Level}** Strength of Evidence Classification Rating appears here				
Treatments definition appears hear.									
Skills Increased									
Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						
Behaviors Decreased									
Problem Behaviors		**RRN**		**SER**		**General Symptoms**			
X									
Ages									
0-2	3-5	6-9	10-14	15-18		19-21			
X	X	X							
Diagnostic Classification									
Autistic Disorder		Asperger's Syndrome		PDD-NOS					
X		X		X					

Age

Individuals of all different age groups are affected by ASD. Increasingly, parents and professionals are asking whether or not favorable outcomes are reported for specific age groups. Information about ASD treatments based on age can be found below the "Behaviors Decreased" row for each treatment (see example below). Specific age categories include infant/toddlers (ages 0-3), preschool (ages 3-5), elementary (ages 6-9), middle school (ages 10-14), high school (ages 15-18), and early adult (ages 19-21). If favorable outcomes are reported for any of these age groups, an "X" will appear in the box below the age group. For example, in Table 6, Treatment Z is associated with favorable outcomes for children under the age of 10.

Table 6} Examples of Favorable Outcomes Based on Age

Treatment Z									**Evidence Level}** Strength of Evidence Classification Rating appears here
Treatments definition appears hear.									
Skills Increased									
Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						
Behaviors Decreased									
Problem Behaviors		RRN		SER		General Symptoms			
X									
Ages									
0-2	**3-5**	**6-9**	**10-14**	**15-18**	**19-21**				
X	X	X							
Diagnostic Classification									
Autistic Disorder		Asperger's Syndrome		PDD-NOS					
X		X		X					

Diagnostic Group

Individuals representing different diagnostic groups are affected by ASD. Increasingly, parents and professionals are asking whether or not favorable outcomes are reported for specific diagnostic groups. Information about ASD treatments based on diagnosis can be found below the "Ages" row for each treatment (see example below). Specific diagnostic categories include Autistic Disorder (AD), Asperger's Syndrome (AS), and PDD-NOS. If favorable outcomes are reported for any of these diagnostic groups, an "X" will appear in the box below the age group. For example, in Table 7, Treatment Z is associated with favorable outcomes for children diagnosed with Autistic Disorder, Asperger's Syndrome, and PDD-NOS.

Table 7} Examples of Favorable Outcomes Based on Diagnosis

Treatment Z						**Evidence Level}** Strength of Evidence Classification Rating appears here			
Treatments definition appears hear.									
Skills Increased									
Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						
Behaviors Decreased									
Problem Behaviors		RRN		SER		General Symptoms			
X									
Ages									
0-2	3-5	6-9		10-14		15-18		19-21	
X	X	X							
Diagnostic Classification									
Autistic Disorder			**Asperger's Syndrome**			**PDD-NOS**			
X			X			X			

4 Outcomes

Established Treatments

We identified 11 treatments as Established (i.e., they were established as effective) for individuals with Autism Spectrum Disorders (ASD). Established Treatments are those for which several well-controlled studies have shown the intervention to produce beneficial effects. There is compelling scientific evidence to show these treatments are effective; however, even among Established Treatments, universal improvements cannot be expected to occur for all individuals on the autism spectrum.

The following interventions are Established Treatments:

- Antecedent Package
- Behavioral Package
- Comprehensive Behavioral Treatment for Young Children
- Joint Attention Intervention
- Modeling
- Naturalistic Teaching Strategies
- Peer Training Package
- Pivotal Response Treatment
- Schedules
- Self-management
- Story-based Intervention Package

Each of these treatments is defined in the tables that follow. Whenever possible, we provided examples of treatment strategies associated with each Established Treatment. The number of studies conducted that contributed to this rating is listed in parentheses after the treatment name. These examples should be considered Established Treatments for individuals with ASD.

Antecedent Package {99 studies}

Evidence Level} Established

These interventions involve the modification of situational events that typically precede the occurrence of a target behavior. These alterations are made to increase the likelihood of success or reduce the likelihood of problems occurring. Treatments falling into this category reflect research representing the fields of applied behavior analysis (ABA), behavioral psychology, and positive behavior supports.

Examples include but are not restricted to: behavior chain interruption (for increasing behaviors); behavioral momentum; choice; contriving motivational operations; cueing and prompting/prompt fading procedures; environmental enrichment; environmental modification of task demands, social comments, adult presence, intertrial interval, seating, familiarity with stimuli; errorless learning; errorless compliance; habit reversal; incorporating echolalia, special interests, thematic activities, or ritualistic/obsessional activities into tasks; maintenance interspersal; noncontingent access; noncontingent reinforcement; priming; stimulus variation; and time delay.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X	X		X		X	X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X		X	

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X	X	X	

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Behavioral Package {231 studies}

Evidence Level} Established

These interventions are designed to reduce problem behavior and teach functional alternative behaviors or skills through the application of basic principles of behavior change. Treatments falling into this category reflect research representing the fields of applied behavior analysis, behavioral psychology, and positive behavior supports.

Examples include but are not restricted to: behavioral sleep package; behavioral toilet training/dry bed training; chaining; contingency contracting; contingency mapping; delayed contingencies; differential reinforcement strategies; discrete trial teaching; functional communication training; generalization training; mand training; noncontingent escape with instructional fading; progressive relaxation; reinforcement; scheduled awakenings; shaping; stimulus-stimulus pairing with reinforcement; successive approximation; task analysis; and token economy.

Treatments involving a complex combination of behavioral procedures that may be listed elsewhere in this document are also included in the behavioral package category. Examples include but are not restricted to: choice + embedding + functional communication training + reinforcement; task interspersal with differential reinforcement; tokens + reinforcement + choice + contingent exercise + overcorrection; noncontingent reinforcement + differential reinforcement; modeling + contingency management; and schedules + reinforcement + redirection + response prevention. Studies targeting verbal operants also fall into this category.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
X	X		X	X		X		X	X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X	X	X	

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X	X	X	X

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Comprehensive Behavioral Treatment for Young Children {22 studies}

Evidence Level} Established

This treatment reflects research from comprehensive treatment programs that involve a combination of applied behavior analytic procedures (e.g., discrete trial, incidental teaching, etc.) which are delivered to young children (generally under the age of 8). These treatments may be delivered in a variety of settings (e.g., home, self-contained classroom, inclusive classroom, community) and involve a low student-to-teacher ratio (e.g., 1:1). All of the studies falling into this category met the strict criteria of: {a} targeting the defining symptoms of ASD, {b} having treatment manuals, {c} providing treatment with a high degree of intensity, and {d} measuring the overall effectiveness of the program (i.e., studies that measure subcomponents of the program are listed elsewhere in this report).

These treatment programs may also be referred to as ABA programs or behavioral inclusive program and early intensive behavioral intervention.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X	X	X		X	X	X	X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X			X

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Joint Attention Intervention {6 studies}

Evidence Level} Established

These interventions involve building foundational skills involved in regulating the behaviors of others. Joint attention often involves teaching a child to respond to the nonverbal social bids of others or to initiate joint attention interactions. Examples include pointing to objects, showing items/activities to another person, and following eye gaze.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X				

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Modeling {50 studies}

Evidence Level} Established

These interventions rely on an adult or peer providing a demonstration of the target behavior that should result in an imitation of the target behavior by the individual with ASD. Modeling can include simple and complex behaviors. This intervention is often combined with other strategies such as prompting and reinforcement. Examples include live modeling and video modeling.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X	X	X			X		X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X		X	

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X	X	X	

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	X

Naturalistic Teaching Strategies {32 studies}

Evidence Level} Established

These interventions involve using primarily child-directed interactions to teach functional skills in the natural environment. These interventions often involve providing a stimulating environment, modeling how to play, encouraging conversation, providing choices and direct/natural reinforcers, and rewarding reasonable attempts. Examples of this type of approach include but are not limited to focused stimulation, incidental teaching, milieu teaching, embedded teaching, and responsive education and prelinguistic milieu teaching.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X	X				X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Peer Training Package {33 studies}

Evidence Level} Established

These interventions involve teaching children without disabilities strategies for facilitating play and social interactions with children on the autism spectrum. Peers may often include classmates or siblings. When both initiation training and peer training were components of treatment in a study, the study was coded as "peer training package." These interventions may include components of other treatment packages (e.g., self-management for peers, prompting, reinforcement, etc.). Common names for intervention strategies include peer networks, circle of friends, buddy skills package, Integrated Play Groups™, peer initiation training, and peer-mediated social interactions.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X					X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
	X		

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Pivotal Response Treatment {14 studies}

Evidence Level} Established

This treatment is also referred to as PRT, Pivotal Response Teaching, and Pivotal Response Training. PRT focuses on targeting "pivotal" behavioral areas—such as motivation to engage in social communication, self-initiation, self-management, and responsiveness to multiple cues, with the development of these areas having the goal of very widespread and fluently integrated collateral improvements. Key aspects of PRT intervention delivery also focus on parent involvement in the intervention delivery, and on intervention in the natural environment such as homes and schools with the goal of producing naturalized behavioral improvements. This treatment is an expansion of Natural Language Paradigm which is also included in this category.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X					X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Schedules {12 studies}

Evidence Level} Established

These interventions involve the presentation of a task list that communicates a series of activities or steps required to complete a specific activity. Schedules are often supplemented by other interventions such as reinforcement. Schedules can take several forms including written words, pictures or photographs, or work stations.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
									X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Self-management {21 studies}

Evidence Level} Established

These interventions involve promoting independence by teaching individuals with ASD to regulate their behavior by recording the occurrence/non-occurrence of the target behavior, and securing reinforcement for doing so. Initial skills development may involve other strategies and may include the task of setting one's own goals. In addition, reinforcement is a component of this intervention with the individual with ASD independently seeking and/or delivering reinforcers. Examples include the use of checklists (using checks, smiley/frowning faces), wrist counters, visual prompts, and tokens.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
			X						X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X			

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X	X	X	

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Story-based Intervention Package {21 studies}

Evidence Level} Established

These treatments involve a written description of the situations under which specific behaviors are expected to occur. Stories may be supplemented with additional components (e.g., prompting, reinforcement, discussion, etc.). Social Stories™ are the most well-known story-based interventions and they seek to answer the "who," "what," "when," "where," and "why" in order to improve perspective-taking.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
			X						X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
		X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	

Detailed Summary of Established Treatments

Most treatments are not intended to address every treatment target (i.e., skills to be increased or behaviors to be decreased). Similarly, they may not be developed with the expectation that they will target every age or diagnostic group. For example, joint attention is a skill set that typically develops in very young children. Knowing this, we would expect to see most of the research on joint attention conducted with infants, toddlers, or preschool-aged children. In fact, this is exactly what our review shows. However, whenever a treatment could reasonably be effective for different treatment targets, age groups, or diagnostic groups, researchers should set as a goal to extend research into these different targets or groups.

Table 8 shows which Established Treatments have demonstrated favorable outcomes for each treatment target, age group, or diagnostic group. Although not all Established Treatments should be expected to apply to each of these areas, many of these interventions could be applied to a broader array of treatments. A brief summary follows.

Treatment Targets

Established Treatments have demonstrated favorable outcomes for many treatment targets.

- Antecedent Package, Behavioral Package, and Comprehensive Behavioral Treatment for Young Children have demonstrated favorable outcomes with more than half of the skills that are often targeted to be increased (see Table 8 for examples).
- Behavioral Package has demonstrated favorable outcomes with three-quarters of the behaviors that are often targeted to decrease (see Table 8 for examples).
- Other Established Treatments have demonstrated favorable outcomes with a smaller range of treatment targets. In many cases, this provides a rich opportunity to extend research findings.

The Established Treatments identified in this document arise from diverse theoretical orientations or fields of study. However, certain trends emerged from an examination of these Established Treatments. Approximately two-thirds of the Established Treatments were developed exclusively from the behavioral literature (e.g., applied behavior analysis, behavioral psychology, and positive behavioral supports). Of the remaining one-third, 75% represent treatments for which research support comes predominantly from the behavioral literature. Additional contributions were made from the non-behavioral literature emanating from the fields of speech-language pathology and special education. These researchers often gave strong emphasis to developmental considerations. Less than 10% (i.e., Story-based Intervention Package) of the total number of Established Treatments arose from the theory of mind perspective. Interestingly, even these interventions often included a behavioral component.

This pattern of findings suggests that treatments from the behavioral literature have the strongest research support at this time. Yet it is important to recognize that treatments based on alternative theories, in isolation or combined with behavioral interventions, should continue to be examined empirically. Further, it demonstrates that all treatment studies can be compared against a common methodological standard and show evidence of effectiveness. Despite the preponderance of evidence associated with the behavioral literature, it is important to acknowledge the important contributions non-behavioral approaches are making at present, and to fund research examining both the behavioral and non-behavioral literature as we move forward.

Age Groups

Established Treatments have demonstrated favorable outcomes with many age groups.

- Behavioral Package has demonstrated favorable outcomes with all age groups.
- Antecedent Package, Comprehensive Behavioral Treatment for Young Children, Modeling, and Self-management have demonstrated favorable outcomes with two-thirds of all age groups.
- Naturalistic Teaching Strategies have demonstrated favorable outcomes with one-half of all age groups.
- Only one Established Treatment has been associated with favorable outcomes for the early adult age group. Further investigation is necessary for this age group.
- Other Established Treatments have demonstrated favorable outcomes with a small range of age groups. In many cases, this provides a rich opportunity to extend research findings.

Diagnostic Groups

Established Treatments have demonstrated favorable outcomes with many diagnostic groups.

- Behavioral Package, Comprehensive Behavioral Treatment for Young Children, Joint Attention Intervention, Modeling, Naturalistic Teaching Strategies, and Peer Training Package have demonstrated favorable outcomes with most diagnostic groups.
- A few Established Treatments (i.e., Modeling and Story-based Intervention Package) have been associated with favorable outcomes for Asperger's Syndrome. Further investigation is necessary for this diagnostic group.
- Other Established Treatments have demonstrated favorable outcomes with a smaller range of diagnostic groups. In many cases, this provides a rich opportunity to extend research findings.

Understanding Favorable Outcomes in Established Treatments

All of the interventions listed in Table 8 on the following page are Established Treatments. This means that there is sufficient evidence to confidently state that each of these treatments produces beneficial effects. The quality, quantity, and consistency of outcomes indicate that these treatments work with individuals on the autism spectrum.

Despite the fact that these Established Treatments have been shown to be effective in studies, we know that they will not be effective for all individuals with ASD. As is the case with other diseases, there are patients who do not respond favorably to a treatment that is shown to be effective. Similarly, the same treatment may be effective for certain symptoms but not others. More research is necessary to further pinpoint which individuals with ASD will respond when specific symptoms are targeted for improvement.

Scientists can clarify which individuals with ASD are likely to respond to treatments in two ways. First, they can identify variables that predict which individuals are likely to respond to treatment in general. For example, initial communication skills and IQ are two variables that predict response to treatment (in this case, favorably). However, even when these predictors are identified, it does not mean that everyone with a higher IQ or better initial communication skills will respond to treatment, and vice versa. These variables are important, but not perfect, predictors. For this reason, treatment should not be denied to individuals with lower IQs or poorer initial communication skills.

A second way to identify who might respond to treatment is to examine the scientific literature and determine who has responded favorably to treatments in the past. For example, have individuals who are members of different age or diagnostic groups responded favorably to treatment?

We developed Table 8 as a way to begin addressing this second strategy. We applied the following criterion to identify favorable outcomes: all treatments for which a few[7] studies with a minimum SMRS score of 2 that showed beneficial treatment effects were identified as having favorable outcomes. We selected this criterion as our lower anchor to increase the chances we would detect any variables that might predict specific responsivity to treatment within subgroups (age, diagnosis) of individuals with ASD.

In addition to subgroups that might be responsive to treatment, we applied the same procedures to begin identifying which specific symptoms may be responsive to each of the Established Treatments. These symptoms cut across specific subgroups (age, diagnosis). This was based on the current state of the literature; additional research will be necessary to better clarify which symptoms may be most responsive to each of these Established Treatments.

As noted in the Evidence-based Practice section, treatment selection is complicated. The information in Table 8 can be helpful to families, educators, and service providers because it may make them even more confident to learn that an Established Treatment has produced favorable outcomes for specific treatment targets, age groups, or diagnostic populations. It may make the process of selecting from among the 11 Established Treatments easier.

However, Established Treatments should not be avoided for specific treatment targets, age groups, or diagnostic populations simply because favorable outcomes have not yet been extended to those areas. When considering *all* of the ASD treatment research, these treatments have sufficient evidence to show that they can produce beneficial treatment effects for individuals on the autism spectrum.

[7] Few is defined in the Table 3 describing the Strength of Evidence Classification System. The number of studies required differ for group and single-subject research designs.

Table 8} Established Treatments with Favorable Outcomes Reported

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness
Behavioral Package	Antecedent Package Behavioral Package CBTYC Joint Attention Modeling NTS Peer Training PRT	CBTYC Modeling	Antecedent Package Behavioral Package CBTYC Joint Attention Modeling NTS Peer Training PRT Self-management Story-based	Antecedent Package Behavioral Package NTS
Motor	**Personal Responsibility**	**Placement**	**Play**	**Self-Regulation**
CBTYC	Antecedent Package Behavioral Package CBTYC Modeling	CBTYC	Antecedent Package Behavioral Package CBTYC Modeling NTS Peer Training PRT	Antecedent Package Behavioral Package Schedules Self-management Story-based

Behaviors Decreased

Problem Behaviors	Restricted, Repetitive, Nonfunctional Behavior, Interests, or Activities	Sensory/Emotional Regulation	General Symptoms
Antecedent Package Behavioral Package CBTYC Modeling Self-management	Behavioral Package Peer Training	Antecedent Package Behavioral Package Modeling	CBTYC

Ages

0-2	3-5	6-9	10-14	15-18	19-21
Behavioral CBTYC Joint Attention NTS	Antecedent Behavioral CBTYC Joint Attention Modeling NTS Peer Training PRT Schedules Self-management	Antecedent Behavioral CBTYC Modeling NTS Peer Training PRT Schedules Self-management Story-based	Antecedent Behavioral Modeling Peer Training Schedules Self-management Story-based	Antecedent Behavioral Modeling Self-management	Behavioral

Diagnostic Classification

Autistic Disorder		Asperger's Syndrome	PDD-NOS
Antecedent Behavioral CBTYC Joint Attention Modeling NTS	Peer Training PRT Schedules Self-management Story-based	Modeling Story-based	Behavioral Package CBTYC Joint Attention Modeling NTS Peer Training

Antecedent=Antecedent Package; Behavioral=Behavioral Package; CBTYC=Comprehensive Behavioral Treatment for Young Children; Joint Attention=Joint Attention Intervention; NTS=Naturalistic Teaching Strategies; Peer Training=Peer Training Package; PRT=Pivotal Response Treatment; Story-based=Story-based Intervention Package

Emerging Treatments

Emerging Treatments are those for which one or more studies suggest the intervention may produce favorable outcomes. However, additional high quality studies that consistently show these treatments to be effective for individuals with ASD are needed before we can be fully confident that the treatments are effective. Based on the available evidence, we are not yet in a position to rule out the possibility that Emerging Treatments are, in fact, not effective.

A large number of studies fall into the "Emerging" level of evidence. We believe scientists should find fertile ground for further research in these areas. The number of studies conducted that contributed to this rating is listed in parentheses after the treatment name.

The following treatments have been identified as falling into the Emerging level of evidence:

- Augmentative and Alternative Communication Device {14 studies}
- Cognitive Behavioral Intervention Package {3 studies}
- Developmental Relationship-based Treatment {7 studies}
- Exercise {4 studies}
- Exposure Package {4 studies}
- Imitation-based Interaction {6 studies}
- Initiation Training {7 studies}
- Language Training (Production) {13 studies}
- Language Training (Production & Understanding) {7 studies}
- Massage/Touch Therapy {2 studies}

- Multi-component Package {10 studies}
- Music Therapy {6 studies}
- Peer-mediated Instructional Arrangement {11 studies}
- Picture Exchange Communication System {13 studies}
- Reductive Package {33 studies}
- Scripting {6 studies}
- Sign Instruction {11 studies}
- Social Communication Intervention {5 studies}
- Social Skills Package {16 studies}
- Structured Teaching {4 studies}
- Technology-based Treatment {19 studies}
- Theory of Mind Training {4 studies}

Each of these treatments is defined in the tables that follow. Whenever possible, we provided examples of treatment strategies associated with each Emerging Treatment. The number of studies conducted that contributed to this rating is listed in parentheses after the treatment name. These examples should be considered Emerging Treatments for individuals with ASD.

Augmentative and Alternative Communication (AAC) Device {14 studies}

Evidence Level} Emerging

These interventions involved the use of high or low technologically sophisticated devices to facilitate communication. Examples include but are not restricted to: pictures, photographs, symbols, communication books, computers, or other electronic devices.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X								

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Cognitive Behavioral Intervention Package {3 studies}

Evidence Level} Emerging

These interventions focus on changing everyday negative or unrealistic thought patterns and behaviors with the aim of positively influencing emotions and/or life functioning.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
			X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
	X	**X**	

Ages

0-2	3-5	6-9	10-14	15-18	19-21
		X	X	X	

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	

Developmental Relationship-based Treatment {7 studies}

Evidence Level} Emerging

These treatments involve a combination of procedures that are based on developmental theory and emphasize the importance of building social relationships. These treatments may be delivered in a variety of settings (e.g., home, classroom, community). All of the studies falling into this category met the strict criteria of: {a} targeting the defining symptoms of ASD, {b} having treatment manuals, {c}) providing treatment with a high degree of intensity, and {d} measuring the overall effectiveness of the program (i.e., studies that measure subcomponents of the program are listed elsewhere in this report). These treatment programs may also be referred to as the Denver Model, DIR (Developmental, Individual Differences, Relationship-based)/Floortime, Relationship Development Intervention, or Responsive Teaching.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X	X	X		X			X	X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
		X	X

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X				

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Exercise {4 studies}

Evidence Level} Emerging

These interventions involve an increase in physical exertion as a means of reducing problems behaviors or increasing appropriate behavior.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
								X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Exposure Package {4 studies}

Evidence Level} Emerging

These interventions require that the individual with ASD increasingly face anxiety-provoking situations while preventing the use of maladaptive strategies used in the past under these conditions.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X				

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Imitation-based Interaction {6 studies}

Evidence Level} Emerging

These interventions rely on adults imitating the actions of a child.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
			X	X				X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Initiation Training {7 studies}

Evidence Level} Emerging

These interventions involve directly teaching individuals with ASD to initiate interactions with their peers.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
		X	X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X		X	

Ages

0-2	3-5	6-9	10-14	15-18	19-21
		X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	X

Language Training (Production) {13 studies}

Evidence Level} Emerging

These interventions have as their primary goal to increase speech production. Examples include but are not restricted to: echo relevant word training, oral communication training, oral verbal communication training, structured discourse, simultaneous communication, and individualized language remediation.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X					X	

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Language Training (Production & Understanding) {7 studies}

Evidence Level} Emerging

These interventions have as their primary goals to increase both speech production and understanding of communicative acts. Examples include but are not restricted to: total communication training, position object training, position self-training, and language programming strategies.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X								

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Massage/Touch Therapy {2 studies}

Evidence Level} Emerging

These interventions involve the provision of deep tissue stimulation.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
			X						X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
	X	X	X

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X				

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Multi-component Package {10 studies}

Evidence Level} Emerging

These interventions involve a combination of multiple treatment procedures that are derived from different fields of interest or different theoretical orientations. These treatments do not better fit one of the other treatment "packages" in this list nor are they associated with specific treatment programs.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
X			

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	X

Music Therapy {6 studies}

Evidence Level} Emerging

These interventions seek to teach individual skills or goals through music. A targeted skill (e.g., counting, learning colors, taking turns, etc.) is first presented through song or rhythmic cuing and music is eventually faded.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Peer-mediated Instructional Arrangement {11 studies}

Evidence Level} Emerging

These interventions involve targeting academic skills by involving same-aged peers in the learning process. This approach is also described as peer tutoring.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
			X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
		X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Picture Exchange Communication System {13 studies}

Evidence Level} Emerging

This treatment involves the application of a specific augmentative and alternative communication system based on behavioral principles that are designed to teach functional communication to children with limited verbal and/or communication skills.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Reductive Package {33 studies}

Evidence Level} Emerging

These interventions rely on strategies designed to reduce problem behaviors in the absence of increasing alternative appropriate behaviors. Examples include but are not restricted to water mist, behavior chain interruption (without attempting to increase an appropriate behavior), protective equipment, and ammonia.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
	X		

Ages

0-2	3-5	6-9	10-14	15-18	19-21

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Scripting {6 studies}

Evidence Level} Emerging

These interventions involve developing a verbal and/or written script about a specific skill or situation which serves as a model for the child with ASD. Scripts are usually practiced repeatedly before the skill is used in the actual situation.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
		X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Sign Instruction {11 studies}

Evidence Level} Emerging

These interventions involve the direct teaching of sign language as a means of communicating with other individuals in the environment.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X								

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
		X	

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X			

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Social Communication Intervention {5 studies}

Evidence Level} Emerging

These psychosocial interventions involve targeting some combination of social communication impairments such as pragmatic communication skills, and the inability to successfully read social situations. These treatments may also be referred to as social pragmatic interventions.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X		X		X	X			

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X				

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Social Skills Package {16 studies}

Evidence Level} Emerging

These interventions seek to build social interaction skills in children with ASD by targeting basic responses (e.g., eye contact, name response) to complex social skills (e.g., how to initiate or maintain a conversation).

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
			X						

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
	X	X	X	X	

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	X

Structured Teaching {4 studies}

Evidence Level} Emerging

Based on neuropsychological characteristics of individuals with autism, this intervention involves a combination of procedures that rely heavily on the physical organization of a setting, predictable schedules, and individualized use of teaching methods. These procedures assume that modifications in the environment, materials, and presentation of information can make thinking, learning, and understanding easier for people with ASD if they are adapted to individual learning styles of autism and individual learning characteristics. All of the studies falling into this category met the strict criteria of: {a} targeting the defining symptoms of ASD; {b} having treatment manuals; {c}) providing treatment with a high degree of intensity; and {d} measuring the overall effectiveness of the program (i.e., studies that measure subcomponents of the program are listed elsewhere in this report). These treatment programs may also be referred to as TEACCH (Treatment and Education of Autistic and related Communication-handicapped CHildren).

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
	X	X	X	X	X	X			

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
X	X	X	X	X	

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		X

Technology-based Treatment {19 studies}

Evidence Level} Emerging

These interventions require the presentation of instructional materials using the medium of computers or related technologies. Examples include but are not restricted to Alpha Program, Delta Messages, the Emotion Trainer Computer Program, pager, robot, or a PDA (Personal Digital Assistant). The theories behind Technology-based Treatments may vary but they are unique in their use of technology.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
X	X					X			X

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms
		X	

Ages

0-2	3-5	6-9	10-14	15-18	19-21
		X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X		

Theory of Mind Training {4 studies}

Evidence Level} Emerging

These interventions are designed to teach individuals with ASD to recognize and identify mental states (i.e., a person's thoughts, beliefs, intentions, desires and emotions) in oneself or in others and to be able to take the perspective of another person in order to predict their actions.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation
		X							

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21
		X	X		

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS
X	X	

Unestablished Treatments

Unestablished Treatments are those for which there is little or no evidence in the scientific literature that allows us to draw firm conclusions about the effectiveness of these interventions with individuals with ASD. There is no reason to assume these treatments are effective. Further, there is no way to rule out the possibility these treatments are ineffective or harmful.

The following treatments have been identified as falling into the Unestablished level of evidence:

- Academic Interventions
- Auditory Integration Training
- Facilitated Communication
- Gluten- and Casein-Free Diet
- Sensory Integrative Package

Research has been conducted on these five treatments. However, the quality, quantity, and consistency of research findings have generally been poor or do not apply to individuals with ASD, so we cannot be confident about what the effects of treatment might be. Whenever possible, we have provided supplementary information that might assist readers in their decision making regarding these treatments.

There are likely many more treatments that fall into this category. That is, there are many treatments for which no research has been conducted or, if studies have been published, the accepted process for publishing scientific work was not followed. There are a growing number of treatments that have not yet been investigated scientifically. These would all be Unestablished Treatments. Further, any treatments for which studies were published exclusively in non-peer-reviewed journals would be Unestablished Treatments.

Each of these treatments is defined in the tables that follow. Whenever possible, we provided examples of treatment strategies associated with each Unestablished Treatment. The number of studies conducted that contributed to this rating is listed in parentheses after the treatment name. These examples should be considered Unestablished Treatments for individuals with ASD.

Academic Interventions {10 studies}

Evidence Level} Unestablished

These interventions involve the use of traditional teaching methods to improve academic performance. Examples include but are not restricted to: "personal instruction"; paired associate; picture-to-text matching; The Expression Connection; answering pre-reading questions; completing cloze sentences; resolving anaphora; sentence combining; "special education;" speech output and orthographic feedback; and handwriting training.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS

Auditory Integration Training {3 studies}

Evidence Level} Unestablished

This intervention involves the presentation of modulated sounds through headphones in an attempt to retrain an individual's auditory system with the goal of improving distortions in hearing or sensitivities to sound.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS

Facilitated Communication {5 studies}

Evidence Level} Unestablished

This intervention involves having a facilitator support the hand or arm of an individual with limited communication skills, helping the individual express words, sentences, or complete thoughts by using a keyboard of words or pictures or typing device.

The National Standards Project followed strict inclusionary/exclusionary criteria. As a result, we eliminated a large number of studies on the treatment of Facilitated Communication that {a} involved adults 22 years of age or older, {b} involved individuals with infrequently occurring co-morbid conditions, and {c} focused on the adult facilitators (as opposed to the individuals with ASD). Although our results indicate Facilitated Communication is an "Unestablished Treatment," we believe it is necessary to make readers aware that a number of professional organizations have adopted resolutions advising against the use of facilitated communication. These resolutions are often related to concerns regarding "immediate threats to the individual civil and human rights of the person with autism…" (American Psychological Association, 1994).

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS

Gluten- and Casein-Free Diet {2 studies}

Evidence Level} Unestablished

These interventions involve elimination of an individual's intake of naturally occurring proteins gluten and casein.

Early studies suggested that the Gluten- and Casein-Free diet may produce favorable outcomes but did not have strong scientific designs. Better controlled research published since 2006 suggests there may be no educational or behavioral benefits for these diets. Further, potential medically harmful effects have begun to be reported in the literature. We recommend reading the following studies before considering this option:

1. Arnold, G. L., Hyman, S. L., Mooney, R. A., & Kirby, R. S. (2003). Plasma amino acids profiles in children with autism: Potential risk of nutritional deficiencies. *Journal of Autism and Developmental Disabilities, 33*, 449-454.
2. Heiger, M. L., England, L. J., Molloy, C. A., Yu, K. F., Manning-Courtney, P., & Mills, J. L. (2008). Reduced bone cortical thickness in boys with autism or autism spectrum disorders. *Journal of Autism and Developmental Disorders, 38*, 848-856.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS

Sensory Integrative Package {7 studies}

Evidence Level} Unestablished

These treatments involve establishing an environment that stimulates or challenges the individual to effectively use all of their senses as a means of addressing overstimulation or understimulation from the environment.

Skills Increased

Academic	Communication	Higher Cognitive Functions	Interpersonal	Learning Readiness	Motor	Personal Responsibility	Placement	Play	Self-Regulation

Behaviors Decreased

Problem Behaviors	RRN	SER	General Symptoms

Ages

0-2	3-5	6-9	10-14	15-18	19-21

Diagnostic Classification

Autistic Disorder	Asperger's Syndrome	PDD-NOS

Ineffective/Harmful Treatments

Ineffective or Harmful Treatments are those for which several well-controlled studies have shown the intervention to be ineffective or to produce harmful outcomes, respectively. At this time, there are no treatments that have sufficient evidence specific to the ASD population that meet these criteria.

This outcome is not entirely unexpected. When preliminary research findings suggest a treatment is ineffective or harmful, researchers tend to change the focus of their scientific inquiries into treatments that may be effective. That is, research often stops once there is a suggestion that the treatment does not work or that it is harmful. Further, research showing a treatment to be ineffective or harmful may be available with different populations (e.g., developmental disabilities, general populations, etc.). Ethical researchers are not going to then apply these ineffective or harmful treatments specifically to children or adolescents on the autism spectrum just to show that the treatment is equally ineffective or harmful with individuals with ASD.

See the Evidence-based Practice section to learn how practitioners' knowledge of interventions outside the ASD population should be integrated into the decision-making process.

5 Recommendations for Treatment Selection

Treatment selection is complicated and should be made by a team of individuals who can consider the unique needs and history of the individual with Autism Spectrum Disorder (ASD) along with the environments in which he or she lives. We do not intend for this document to dictate which treatments can or cannot be used for individuals on the autism spectrum.

Having stated this, we have been asked by families, educators, and service providers to recommend how our results might be helpful to them in their decision making. As an effort to meet this request, we provide suggestions regarding the interpretation of our outcomes. In all cases, we strongly encourage decision makers to select an evidence-based practice approach.

Research findings are not the sole factor that should be considered when treatments are selected. The suggestions we make here refer only to the "research findings" component of evidence-based practice and should be only one factor considered when selecting treatments.

Recommendations based on research findings:

- Established Treatments have sufficient evidence of effectiveness. We recommend the decision-making team give serious consideration to these treatments because {a} these treatments have produced beneficial effects for individuals involved in the research studies published in the scientific literature, {b} access to treatments that work can be expected to produce more positive long-term outcomes, and {c} there is no evidence of harmful effects. However, it should not be assumed that these treatments will universally produce favorable outcomes for all individuals on the autism spectrum.
- Given the limited research support for Emerging Treatments, we generally do not recommend *beginning* with these treatments. However, Emerging Treatments should be considered promising and warrant serious consideration if Established Treatments are deemed inappropriate by the decision-making team. There are several very legitimate reasons this might be the case (see examples in the Professional Judgment or Values and Preferences sections of Chapter 6).
- Unestablished Treatments either have no research support or the research that has been conducted does not allow us to draw firm conclusions about treatment effectiveness for individuals with ASD. When this is the case, decision-makers simply do not know if this treatment is effective, ineffective, or harmful because researchers have not conducted any or enough high quality research. Given how little is known about these treatments, we would recommend considering these treatments *only* after additional research has been conducted and this research shows them to produce favorable outcomes for individuals with ASD.

These recommendations should be considered along with other sources of critical information when selecting treatments (see Chapter 6).

6 Evidence-based Practice

One of the primary objectives of this document is to identify evidence-based treatments. We are not alone in this activity. The National Standards Project is a natural extension of the efforts of the National Research Council {2001}, the New York State Department of Health, Early Intervention Division {1999}, and other related documents produced at state and national levels.

Knowing which treatments have sufficient evidence of effectiveness is likely to—and should—influence treatment selection. Evidence-based practice, however, is more complicated than simply knowing which treatments are effective. Although we argue that knowing which treatments have evidence of effectiveness is essential, other critical factors must also be taken into consideration.

We have identified the following four factors of evidence-based practice:

- Research Findings. The strength of evidence ratings for all treatments being considered must be known. Serious consideration should be given to Established Treatments because there is sufficient evidence that {a} the treatment produced beneficial effects and {b} they are not associated with unfavorable outcomes (i.e., there is no evidence that they are ineffective or harmful) for individuals on the autism spectrum.

  Ideally, treatment selection decisions should involve discussing the benefits of various Established Treatments. Despite the fact there is compelling evidence to suggest these treatments generally produce beneficial effects for individuals on the autism spectrum, there are reasons alternative treatments (e.g., Emerging Treatments) might be considered. A number of these factors are listed below.

- Professional Judgment. The judgment of the professionals with expertise in Autism Spectrum Disorders (ASD) must be taken into consideration. Once treatments are selected, these professionals have the responsibility to collect data to determine if a treatment is effective. Professional judgment may play a particularly important role in decision-making when:
  - A treatment has been correctly implemented in the past and was not effective or had harmful side effects. Even Established Treatments are not expected to produce favorable outcomes for all individuals with ASD.

- The treatment is contraindicated based on other information (e.g., the use of extra-stimulus prompts for a child with a prompt dependency history).
- A great deal of research support might be available beyond the ASD literature and should be considered when required. For example, if an adolescent with ASD presents with anxiety or depression, it might be necessary to identify what treatments are effective for anxiety or depression for the general population. The decision to incorporate outside literature into decision-making should only be made after practitioners are familiar with the ASD-specific treatments. Research that has not been specifically demonstrated to be effective with individuals with ASD should be given consideration along with the ASD-specific treatments only if compelling data support their use and the ASD-specific literature has not fully investigated the treatment. See Appendix 2 for examples of systematic or meta-analytic reviews with broader populations.
- The professional may be aware of well-controlled studies that support the effectiveness of a treatment that were not available when the National Standards Project terminated its literature search.

- Values and Preferences. The values and preferences of parents, care providers, and the individual with ASD should be considered. Stakeholder values and preference may play a particularly important role in decision-making when:
  - A treatment has been correctly implemented in the past and was not effective or had harmful side effects.
  - A treatment is contrary to the values of family members.
  - The individual with ASD indicates that he or she does not want a specific treatment.
- Capacity. Treatment providers should be well positioned to correctly implement the intervention. Developing capacity and sustainability may take a great deal of time and effort, but all people involved in treatment should have proper training, adequate resources, and ongoing feedback about treatment fidelity. Capacity may play a particularly important role in decision-making when:
  - A service delivery system has never implemented the intervention before. Many of these treatments are very complex and require precise use of techniques that can only be developed over time.
  - A professional is considered the "local expert" for a given treatment but he or she actually has limited formal training in the technique.
  - A service delivery system has implemented a system for years without a process in place to ensure the treatment is still being implemented correctly.

7 Limitations

Like other projects of this nature, there are limitations to the National Standards Project. Readers should be familiar with these limitations in order to use this document most effectively.

We have identified the following limitations:

- This document focuses exclusively on research involving individuals with Autism Spectrum Disorders (ASD) who are under 22 years of age.
  - This document does not include a review of the literature for children "at risk" for ASD. New evidence suggests that very young children who are eventually diagnosed with autism have a genetic predisposition that alters their interactions with the typical learning environment.[8] This area is especially important because providing effective interventions (e.g., behavioral interventions) to these infants may be the first critical step to altering early brain development[9] so that the neural circuitry regulating social and communication functions more effectively.
  - This document does not include a review of the adult ASD literature.
  - This document is not an exhaustive review of all treatments for all individuals. There are treatments that might have solid research support for related populations (e.g., developmental disabilities, anxiety, depression, etc.) but have limited or no evidence of research support for individuals with ASD in the National Standards Report. See Chapter 5 for how this might influence treatment selection.
- As noted in the treatment classification section of this report, determining the categories for treatments presents a real challenge. This is equally true whenever comprehensive reviews of the literature are completed for any diagnostic group. Some of our experts suggested making the unit of analysis larger for some

[8] Klin, A., Lin, D.J., Gorrindo, P., Ramsay, G., & Jones, W. (2009). Two-year-olds with autism orient to non-social contingencies rather than biological motion. Nature, 1-7. doi:10.1038/nature07868.

[9] Dawson, G. (2008). Early behavioral intervention, brain plasticity, and the prevention of autism spectrum disorders. *Development and Psychopathology, 20,* 775-803.

categories; others suggested making the unit of analysis smaller for most categories. In the end, we attempted to develop categories that "made sense." We expect that many readers may be interested in more detailed analysis using a smaller unit of analysis, or data using on a different arrangement of treatment categories based on a larger unit of analysis. We look forward to your feedback to guide the next version of the National Standards Project.

- This review included an examination of most group and single-subject research design studies but did not include every type of study.
  - For this report, we only looked at research that was designed to answer questions about the measurable effectiveness of an intervention based on quantifiable data. We did not look at research that was designed to explore questions about the perceived quality of an intervention or the experiences of the children based on qualitative data.
  - There are studies relying on single-case or group design methods that were not included in this review because they fell outside the commonly agreed-upon criteria for evaluating the effectiveness of study outcomes. The experts involved in the development of these Standards made the decision to include only those methodologies that are generally agreed-upon by scientists as sufficient for answering the question, "Is this treatment effective?"
  - We only included studies that have been published in professional journals. It is likely that some researchers conducted studies that provided different or additional data that have not been published. This could influence the reported quality, quantity, or consistency of research findings.
- When establishing interobserver agreement (IOA), field reviewers were asked to examine the coding manual and rate the pilot article they received. Ideally, we would have conducted a training session before they began rating the articles. Also, the pilot articles were selected randomly. Now that we have identified articles with the highest, moderate, and lowest ratings for both single-subject and group research designs, we will use these articles for establishing IOA in future versions of the National Standards Project.

- We did not include articles reviewed in languages other than English. This has the potential to influence the ratings reported in this document. For example, a study that was not included in this review was published in French on Integrated Play Groups™ (Richard & Goupil, 2005). We hope to include volunteer field reviewers from across the world who can effectively review the non-English literature in the next version of the National Standards Project.
- The National Standards Project did not evaluate the extent to which treatment approaches have been studied in "real world" versus laboratory settings. We hope to shed light on this issue in future versions of the National Standards Project.
- One of the primary purposes of the National Standards Project was to identify the level of research support currently available for a range of educational and behavioral interventions. We did not set as our goal the determination of the level of intensity required for delivery of these interventions. The next version of the National Standards Project may provide further analysis in this area. In the interim, we believe treatment providers should continue to follow the recommendations for intensity of services provided by the National Research Council regarding children less than 8 years of age. Specifically,

> "The committee recommends that educational services begin as soon as a child is suspected of having an autistic spectrum disorder. Those services should include a minimum of 25 hours a week, 12 months a year, in which the child is engaged in systematically planned, and developmentally appropriate educational activity toward identified objectives. What constitutes these hours, however, will vary according to a child's chronological age, developmental level, specific strengths and weaknesses, and family needs. Each child must receive sufficient individualized attention on a daily basis so that adequate implementation of objectives can be carried out effectively. The priorities of focus include functional spontaneous communication, social instruction delivered throughout the day in various settings, cognitive development and play skills, and proactive approaches to behavior problems. To the extent that it leads to the acquisition of children's educational goals, young children with an autistic spectrum disorder should receive specialized instruction in a setting in which ongoing interactions occur with typically developing children."

We argue that unless compelling reasons exist to do otherwise, intervention services should be comprised of Established Treatments and they should be delivered following the specifications outlined in the literature (e.g., appropriate use of resources, staff to student ratio, following the prescribed procedures, etc.).

- Writing a report of this type can be quite time-consuming. The National Standards Project terminated the literature review phase in September of 2007. Additional studies have been published in the interim that are not reflected in the current report. This means that if a review were conducted today, the strength of evidence ratings for a given treatment may have improved or be altered. We intend to regularly update this document to assist decision-makers in their selection of treatments. In the meantime, professionals should familiarize themselves with the literature published since the fall of 2007.
- Ideally, research answers important questions beyond treatment effectiveness. This report does not review the following areas that may be important in selecting treatments:
  - Cost-effectiveness;
  - Social validity;
  - Studies examining mediating or moderating variables. Mediating variables can help explain why a treatment is effective. Moderating variables can make a difference in the likelihood a treatment is effective for a given subpopulation; and
  - Research supporting Established Treatments may have been developed in analog settings (e.g., highly structured research settings), which may not reflect real world settings accurately.

Despite its limitations, we sincerely hope this document is useful to you. We also recognize that even more information might be helpful. For example, there may be new or different ways of organizing information that you believe could be useful. If you would like to help shape the direction of the next version of the National Standards Project, please provide feedback to the National Autism Center at info@nationalautismcenter.org.

8 Future Directions

Future Directions for the Scientific Community

One of the goals of the National Standards Project is to identify limitations of the existing literature base. We believe we have done so in two ways: {a} we have identified areas benefiting from or requiring future investigation and {b} we have developed the Scientific Merit Rating Scale and Strength of Evidence Classification System, against which future research can be compared. We expand on these issues below.

There is room for additional research for all treatments. It will be important to extend the current research base for Established Treatments to all reasonable treatment goals, age groups, and diagnostic groups. Additional research must be conducted for treatments falling in the Emerging and Unestablished Treatment categories to determine if {a} the treatments are effective and {b} the treatments are ineffective or harmful. High quality research is perhaps most important for treatments falling into the Unestablished Treatments category.

Future Directions with Methodology

Five dimensions were identified for the Scientific Merit Rating Scale: {a} research design, {b} dependent variable, {c} treatment fidelity, {d} participant ascertainment, and {e} generalization (see Table 3). We identified these dimensions based on the most recent scientific standards that are being advocated in behavioral and social science research. However, scientific standards change over time.

For example, there were no psychometrically sound instruments specifically designed to diagnose Autism Spectrum Disorders (ASD) available when the earliest studies included in this review were conducted. If there had been, the instruments would look very different today based on changes in the diagnostic criteria over the years. For this reason, it is not surprising that many older studies did not achieve the highest possible ratings in this area.

Similarly, it is only recently that evidence of treatment fidelity has been consistently emphasized by the scientific community. This means that although many studies may do an excellent job of describing the procedures used, they still received low ratings on their ability to provide evidence that they completed all procedures exactly as prescribed. This leaves room for improvement in the scientific literature in either the research design or the extent to which scientists report on these important variables.

We encourage researchers to strive to meet the most rigorous standards of scientific merit in future research. We hope the Scientific Merit Rating Scale will assist them in doing so. But it is also essential that journal editors recognize the importance of the five dimensions of scientific merit identified in this report. Important information may sometimes be cut from articles due to space limitations. We hope that researchers will be able to point to the Scientific Merit Rating Scale as an example of critical information that should never be removed from scholarly work.

The Strength of Evidence Classification System may be expanded over time to reflect additional scientific lines of inquiry. For example, it is reasonable to use alternate criteria for different research designs, which is why we did so in the current version of the Strength of Evidence Classification System. However, if qualitative research is included in the next version of the National Standards Project, the current version of the Strength of Evidence Classification System would be insufficient to accurately evaluate these studies.

Future Directions for the National Standards Report

We aim to address many of the limitations of the current National Standards Report in future documents.

For example, we expect:

- To review literature covering the lifespan. This will include a special section on children "at risk" for ASD.
- To reconsider the inclusion of qualitative studies or other types of peer-reviewed studies that are currently excluded.
- To modify treatment classification based on feedback from the many experts in the autism community.
- To examine the extent to which treatments have been studied in "real world" versus laboratory settings.
- To add reviewers who can accurately interpret peer-reviewed articles published in non-English journals.

With additional funding, we hope to help address questions related to cost effectiveness, social validity, studies examining mediating variables, and effectiveness of treatments in real world settings.

We suspect that this report will raise additional questions that we hope to address in future publications. Our ultimate goal is to answer relevant questions related to evidence-based practice in response to the changing expectations of professionals and General Questions

9 Frequently Asked Questions

General Questions

Q} What is the best way to look up information if I want to know if a treatment works?

Information about each of the interventions can be found in Chapter 4. It may be easiest to look up the name of the treatment in the index. More than one table identifying levels of research support may appear on the same page. Read the definitions and examples to find the research support for the treatment in which you are interested.

People are often interested in knowing how much research supports a treatment for a specific goal and/or with a specific age or diagnostic group. This information is provided below the overall Strength of Evidence Rating.

Q} What does it mean if a treatment isn't listed in the National Standards Report?

There are two reasons a treatment might not be listed in this report. First, we developed names and definitions for treatment categories. These treatment categories often include a combination of multiple, similar treatment strategies. It is possible that a treatment clearly fits the definition of one of our treatment categories but we neglected to include it in our index. Please carefully read the definition of the treatment categories to determine if the treatment should reasonably fit in one of the categories. If you believe an intervention strategy should have been listed in our index, please contact the National Autism Center to confirm (info@nationalautismcenter.org). If the treatment should appear in our index, we will correct this in future versions of the National Standards Project and we will post the information on our website.

The second most common reason an intervention strategy may not appear in our index is because it has either not been scientifically studied or studies were not published in a peer-reviewed journal. Peer review is the process scientists use in

all fields to make sure a study meets an agreed-upon minimum requirement for usefulness. Unfortunately, there are many intervention strategies that are marketed today that have not been submitted to rigorous scientific investigation.

Q} If the National Standards Report identifies an Established Treatment, does that mean I should start using that treatment immediately?

Not necessarily. Please read Chapter 6 about Evidence-based Practice for further clarification. In general, you should begin with an understanding of the research outcomes described in this report and then consider the following factors:

- The judgment and data-based clinical decision making of professionals working with the individual with ASD
- The values and preferences of family members and the individual with ASD
- The capacity of the treatment program, school, or professional serving the child with ASD to implement the treatment with a high degree of accuracy

Q} You have described the treatments you reviewed as "educational or behavioral." What does that mean?

We have used the terms "educational or behavioral," but we could have just as easily used other terms like "psychosocial." These treatments involve the modification of the environment to reduce the severity and/or alter the course of a disease or disorder. In contrast, "biomedical" interventions often involve the introduction of biochemicals that are not naturally produced by the body.

These terms are sometimes used to promote an overly simplistic view of treatment. Most physicians and health professionals adopt a "biopsychosocial" model of treatment for disease or disorders. This means that both "biomedical" and "educational and behavioral" treatments must be integrated to sufficiently treat a disorder or disease.

For example, if a primary care physician determines that your adolescent daughter has diabetes, he might recommend a consultation with an endocrinologist, a nutritionist, and a

behavioral specialist. After a thorough assessment, the endocrinologist might recommend daily injections of insulin. The nutritionist might recommend changes in diet to control blood sugar levels. The behavior specialist might provide treatment to increase adherence to insulin injections and changes in lifestyle. The modifications to your daughter's environment must be applied on a daily basis and must be maintained over a long period of time to truly treat the disease. These environmental modifications are often not adopted or cannot be sustained without support from qualified specialists, such as mental health professionals. The biopsychosocial model argues that both components are essential for treating diabetes.

The biopsychosocial model can also be applied to Autism Spectrum Disorders (ASD). Although there are no medications that currently target most of the core symptoms of ASD, they can be used to reduce stereotypy (repetitive movements) and to target associated features such as aggression, self-injury, or hyperactivity. When children demonstrate these specific symptoms, a biomedical intervention should be considered in conjunction with educational or behavioral treatments. As you can see in Table 8 in the Outcomes section of this report, Established Treatments target the core symptoms of ASD as well as associated features. Just as the endocrinologist would not recommend insulin shots without environmental modifications, an ASD specialist would not recommend medication without environmental modifications. In each case, a biopsychosocial model to treatment is endorsed.

Research Questions

Q} Why is research important to decision making?

Without research, we do not really know if a treatment is effective or not. If we pick a treatment that is not effective, it can have very negative outcomes. This is true for any medical, neurological, or mental health concern. For ASD, if we select treatments that are not effective, we can lose critical time, money, and/or energy—this can mean an individual with ASD may not reach his or her greatest potential.

More research related to ASD needs to be conducted. We do not have all of the answers we need yet. This does not mean that we should ignore research outcomes. It just means we need to recognize that the scope of the research is limited and that we need researchers to publish more high-quality research.

Q} Isn't all research the same?

No. Some scientists set up their studies so well that the results are accepted by other scientists as accurate. But other scientists set up their studies in ways that are flawed, so that even other scientists cannot really interpret the outcomes—even if the authors, or others, claim that the treatment is effective.

Q} Why were many articles excluded from the National Standards Project?

The first reason is that computer searches often identify a large number of inappropriate articles. This was the case with the initial search for articles for the NSP. The vast majority of the excluded articles were unrelated to ASD, unrelated to treatment of ASD, or did not involve research.

The second reason articles were excluded was related to the goal of this project. Our goal was to tell you how much evidence there was for treatments targeting the core or associated symptoms of ASD for individuals under the age of 22. This means many studies had to be eliminated. Treatments that did not focus on individuals with ASD, or involved adults, were all eliminated. Many studies include some individuals with ASD as well as participants with other disabilities. If the studies were not set up so that we could interpret how effective the treatment was specifically for individuals with ASD, we had to exclude the study altogether. Also, if the researchers set up their studies using methods that are not commonly accepted by most scientists for analyzing outcomes, we had to remove these studies.

These are the most common reasons for the exclusion of studies from the NSP. See Inclusionary and Exclusionary criteria identified in Chapter 3 for a detailed list of why studies were excluded.

Strength of Evidence Ratings Questions

Q} Why is it important to have more than one study that shows a treatment is effective?

Sometimes we hear conflicting reports about research in the media. One of the biggest reasons this happens is that, no matter how well the study was done, a single study can make a mistake. Replication is the basis for science. More than one study must show the same outcome before we can be truly confident that a treatment is effective, ineffective, or has harmful effects.

Q} What is the difference between "Established Treatments," "Emerging Treatments," "Unestablished Treatments," and "Ineffective/Harmful Treatments?"

Established Treatments require more studies with high Scientific Merit Rating Scale scores and must be shown to be effective. In contrast, Emerging Treatments require fewer studies with moderate Scientific Merit Rating Scale scores. Like Established Treatments, Emerging Treatments must show beneficial treatment outcomes. They differ primarily in that Emerging Treatments have a lower criterion in terms of the number and quality of studies that contribute to this rating. Unestablished Treatments may not have any research supporting them or the studies that have been conducted have very low scientific merit scores. Ineffective/Harmful Treatments require more studies with high scientific merit scores but must show that treatment effects are either ineffective or harmful.

Outcomes Questions

Q} What treatments have the best evidence at this time?

There are eleven Established Treatments. These include: antecedent package, behavioral package, early intensive behavioral intervention, joint attention intervention, modeling, naturalistic teaching strategies, peer training package, pivotal response treatment, schedules, self-management, and story-based interventions.

The Established Treatments identified in this document arise from diverse theoretical orientations or fields of study. However, certain trends emerged from an examination of these Established Treatments. Approximately two-thirds of the Established Treatments were developed exclusively from the behavioral literature (e.g., applied behavior analysis, behavioral psychology, and positive behavioral supports). Of the remaining one-third, 75% represent treatments for which research support comes predominantly from the behavioral literature. Additional contributions were made from the non-behavioral literature emanating from the fields of speech-language pathology and special education. These researchers often gave strong emphasis to developmental considerations. Less than 10% (i.e., Story-based Intervention Package) of the total number of Established Treatments arose from the theory of mind perspective. Interestingly, even these interventions often included a behavioral component.

This pattern of findings suggests that treatments from the behavioral literature have the strongest research support at this time. Yet it is important to recognize that treatments based on alternative theories, in isolation or combined with behavioral interventions, should continue to be examined empirically. Further, it demonstrates that all treatment studies can be compared against a common methodological standard and show evidence of effectiveness. Despite the preponderance of evidence associated with the behavioral literature, it is important to acknowledge the important contributions non-behavioral approaches are making at present, and to fund research examining both the behavioral and non-behavioral literature as we move forward.

Q} Overall, is there more research support when we target certain skills or behaviors rather than others?

Yes. A review of the Established Treatments shows significant differences in research support for treatment targets. For example:

- The majority of Established Treatments are associated with favorable outcomes when communication, interpersonal, and play skills are targeted.
- Nearly half of the Established Treatments are associated with favorable outcomes when self-regulation or problem behaviors are targeted.
- Few Established Treatments (between one and four) are associated with favorable outcomes for all remaining treatment targets.

It is not surprising that all of the Established Treatments are not associated with favorable outcomes for all treatment targets. Some Established Treatments are not intended to target every skill we want to increase or behavior we want to decrease. However, the research on many Established Treatments could be extended to additional treatment targets.

Q} Overall, are there differences in the level of research support across different age groups?

Yes. A review of the Established Treatments shows significant differences in research support for different age groups. For example:

- Most Established Treatments are associated with favorable outcomes for preschoolers and elementary school-aged children.
- The majority of these Established Treatments are also associated with favorable outcomes for middle school-aged children.
- More than one-third (36%) of the Established Treatments is associated with favorable outcomes for very young children (ages 0–2) or high school-aged students (ages 15–18).
- Only one of the Established Treatments is associated with favorable outcomes for young adults (ages 19–21).

The pattern of identifying fewer interventions with the youngest children is not surprising. A large percentage of the ASD population has not been identified before two years of age. Although we hope earlier identification will lead to additional treatments being identified with this age group, we understand why it is so difficult to show that treatments are effective with this age group. On the other hand, there is no easy explanation for why few interventions have been studied with young adults on the autism spectrum. Clearly, additional research is necessary in this area.

Q} Overall, is there more research with some diagnostic populations than others?

Yes. A review of the Established Treatments shows significant differences in research support for different diagnostic groups. For example:

- All of the Established Treatments are associated with favorable outcomes for individuals with Autistic Disorder.
- More than half of the Established Treatments are associated with favorable outcomes for individuals with PDD-NOS.
- Only two (18%) Established Treatments are associated with favorable outcomes for individuals with Asperger's Syndrome.

To some degree, it is not surprising that the research on the Established Treatments has not yet been fully extended to individuals with Asperger's Syndrome. For example, Asperger's Syndrome is less likely to be diagnosed during the time frame in which joint attention interventions are likely to be implemented, so this treatment may not become extended to the Asperger's Syndrome population for quite some time. In addition, Asperger's Syndrome is a more recent addition to the Diagnostic and Statistical Manual used to diagnose individuals on the autism spectrum. Given the fact that we have reviewed studies published over a 50-year time frame, it is not surprising that this more recent addition to the diagnostic nomenclature is not as well-represented. On the other hand, Asperger's Syndrome has been included in the DSM-IV since 1994. This means that we have had well more than a decade in which research could have been conducted. Clearly, additional research is necessary in this area.

Why were no Ineffective/Harmful Treatments identified?

This outcome is not entirely unexpected. When preliminary research findings suggest a treatment is ineffective or harmful, researchers tend to change the focus of their scientific inquiries into treatments that may be effective. That is, research often stops once there is a suggestion that the treatment does not work or that it is harmful. Further, research showing a treatment to be ineffective or harmful may be available with different populations (e.g., developmental disabilities, general populations, etc.). Ethical researchers are not going to then apply these ineffective or harmful treatments specifically to children or adolescents on the autism spectrum just to show that the treatment is equally ineffective or harmful with individuals with ASD.

See the Evidence-based Practice section to learn how practitioners' knowledge of interventions outside the ASD population should be integrated into the decision-making process.

Appendix}

Academic Interventions

Chen, S. H. A., & Bernard-Opitz, V. (1993). Comparison of personal and computer-assisted instruction for children with autism. *Mental Retardation, 31*(6), 368-376. [Chen_1993.1]

Fossett, B., & Mirenda, P. (2006). Sight word reading in children with developmental disabilities: A comparison of paired associate and picture-to-text matching instruction. *Research in Developmental Disabilities, 27*(4), 411-429. [Fossett_2006.1]

Klecan-Aker, J. S., & Gill, C. (2005). Teaching language organization to a child with pervasive developmental disorder: A case study. *Child Language Teaching & Therapy, 21*(1), 60-74. [KlecanAker_2005.1]

Mukaddes, N. M., Kaynak, F. N., Kinali, G., Besikci, H., & Issever, H. (2004). Psychoeducational treatment of children with autism and reactive attachment disorder. *Autism: The International Journal of Research and Practice, 8*(1), 101-109. [Mukaddes_2004.1]

O'Connor, I. M., & Klein, P. D. (2004). Exploration of strategies for facilitating the reading comprehension of high-functioning students with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 34*(2), 115-127. [O'Connor_2004.1]

Rousseau, M. K., Krantz, P. J., Poulson, C. L., Kitson, M. E., & McClannahan, L. E. (1994). Sentence combining as a technique for increasing adjective use in writing by students with autism. *Research in Developmental Disabilities, 15*(1), 19-37. [Rousseau_1994.1]

Rutter, M., & Bartak, L. (1973). Special educational treatment of autistic children: A comparative study: II. Follow-up findings and implications for services. *Journal of Child Psychology and Psychiatry, 14*(4), 241-270. [Rutter_1973.1]

Schlosser, R. W., Blischak, D. M., Belfiore, P. J., Bartley, C., & Barnett, N. (1998). Effects of synthetic speech output and orthographic feedback on spelling in a student with autism: A preliminary study. *Journal of Autism and Developmental Disorders, 28*(4), 309-319. [Schlosser_1998.1]

Schlosser, R. W., & Blischak, D. M. (2004). Effects of speech and print feedback on spelling by children with autism. *Journal of Speech, Language, and Hearing Research: JSLHR, 47*(4), 848-862. [Schlosser_2004.1]

Wildman, R. W., & Simon, S. J. (1978). An indirect method for increasing the rate of social interaction in an autistic child. *Journal of Clinical Psychology, 34*(1), 144-149. [Wildman_1978.1]

Antecedent Package

Ahearn, W. H. (2003). Using simultaneous presentation to increase vegetable consumption in a mildly selective child with autism. *Journal of Applied Behavior Analysis, 36*(3), 361-365. [Ahearn_2003.1]

Akmanoglu, N., & Batu, S. (2004). Teaching pointing to numerals with individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities, 39*(4), 326-336. [Akmanoglu_2004.1]

Akmanoglu-Uludag, N., & Batu, S. (2005). Teaching naming relatives to individuals with autism using simultaneous prompting. *Education and Training in Developmental Disabilities, 40*(4), 401-410. [Akmanoglu-Uludag_2005.1]

Bainbridge, N., & Myles, B. S. (1999). The use of priming to introduce toilet training to a child with autism. *Focus on Autism and other Developmental Disabilities, 14*(2), 106-109. [Bainbridge_1999.1]

Baker, M. J., Koegel, R. L., & Koegel, L. K. (1998). Increasing the social behavior of young children with autism using their obsessive behaviors. *Journal of the Association for Persons with Severe Handicaps, 23*(4), 300-308. [Baker_1998.1]

Baker, M. J. (2000). Incorporating the thematic ritualistic behaviors of children with autism into games: Increasing social play interactions with siblings. *Journal of Positive Behavior Interventions, 2*(2), 66-84. [Baker_2000.1]

Banda, D. R., & Kubina, R. M., Jr. (2006). The effects of a high-probability request sequencing technique in enhancing transition behaviors. *Education & Treatment of Children, 29*(3), 507-516. [Banda_2006.1]

Bebko, J. M., & Lennox, C. (1988). Teaching the control of diurnal bruxism to two children with autism using a simple cueing procedure. *Behavior Therapy, 19*(2), 249-255. [Bebko_1988.1]

Birkan, B., McClannahan, L. E., & Krantz, P. J. (2007). Effects of superimposition and background fading on the sight-word reading of a boy with autism. *Research in Autism Spectrum Disorders, 1,* 117-125. [Birkan_2007.1]

Bittle, R., & Hake, D. F. (1977). A multi-element design model for component analysis and cross-setting assessment of a treatment package. *Behavior Therapy, 8*(5), 906-914. [Bittle_1977.1]

Bock, M.A. (1994). Acquisition, maintenance, and generalization of a categorization strategy by children with autism. *Journal of Autism and Developmental Disorders, 24*(1), 39-51. [Bock_1994.1]

Bock, M.A. (1999). Sorting laundry: Categorization application to an authentic learning activity by children with autism. *Focus on Autism and other Developmental Disabilities, 14*(4), 220-230. [Bock_1999.1]

Bowler, D. M., & Briskman, J. A. (2000). Photographic cues do not always facilitate performance on false belief tasks in children with autism. *Journal of Autism and Developmental Disorders, 30*(4), 305-316. [Bowler_2000.1.a.b.c]

Britton, L. N., Carr, J. E., Kellum, K. K., Dozier, C. L., & Weil, T. M. (2000). A variation of noncontingent reinforcement in the treatment of aberrant behavior. *Research in Developmental Disabilities, 21*(6), 425-435. [Britton_2000.1]

Carr, E. G., & Kemp, D. C. (1989). Functional equivalence of autistic leading and communicative pointing: Analysis and treatment. *Journal of Autism and Developmental Disorders, 19*(4), 561-578. [Carr.E_1989.1]

Carter, C. M. (2001). Using choice with game play to increase language skills and interactive behaviors in children with autism. *Journal of Positive Behavior Interventions, 3*(3), 489-497. [Carter_2001.1]

Charlop, M. H. (1983). The effects of echolalia on acquisition and generalization of receptive labeling in autistic children. *Journal of Applied Behavior Analysis, 16*(1), 111-126. [Charlop_1983.1.a.b]

Charlop, M. H., Schreibman, L., & Thibodeau, M. G. (1985). Increasing spontaneous verbal responding in autistic children using a time delay procedure. *Journal of Applied Behavior Analysis, 18*(2), 155-166. [Charlop_1985.1]

Charlop, M. H., & Walsh, M. E. (1986). Increasing autistic children's spontaneous verbalization of affection: An assessment of time delay and peer modeling procedures. *Journal of Applied Behavior Analysis, 19*, 307-314. [Charlop_1986.2]

Charlop, M. H., & Trasowech, J. E. (1991). Increasing autistic children's daily spontaneous speech. *Journal of Applied Behavior Analysis, 24*(4), 747-761. [Charlop_1991.1]

Clark, K. M., & Green, G. (2004). Comparison of two procedures for teaching dictated-words/symbol relations to learners with autism. *Journal of Applied Behavior Analysis, 37*(4), 503-507. [Clark_2004.1]

Conroy, M. A., Asmus, J. M., Sellers, J. A., & Ladwig, C. N. (2005). The use of an antecedent-based intervention to decrease stereotypic behavior in a general education classroom: A case study. *Focus on Autism and Other Developmental Disabilities, 20*(4), 223-230. [Conroy_2005.1]

Davis, C. A., Brady, M. P., Williams, R. E., & Hamilton, R. (1992). Effects of high-probability requests on the acquisition and generalization of responses to requests in young children with behavior disorders. *Journal of Applied Behavior Analysis, 25*(4), 905-916. [Davis_1992.1]

Davis, C. A., Brady, M. P., Hamilton, R., McEvoy, M. A., & et al. (1994). Effects of high-probability requests on the social interactions of young children with severe disabilities. *Journal of Applied Behavior Analysis, 27*(4), 619-637. [Davis_1994.1]

DeLeon, I. G., Fisher, W. W., Herman, K. M., & Crosland, K. C. (2000). Assessment of a response bias for aggression over functionally equivalent appropriate behavior. *Journal of Applied Behavior Analysis, 33*(1), 73-77. [DeLeon_2000.2]

Ducharme, J. M., Lucas, H., & Pontes, E. (1994). Errorless embedding in the reduction of severe maladaptive behavior during interactive and learning tasks. *Behavior Therapy, 25*(3), 489-501. [Ducharme_1994.1]

Ducharme, J. M., & Drain, T. L. (2004). Errorless academic compliance training: Improving generalized cooperation with parental requests in children with autism. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*(2), 163-171. [Ducharme_2004.1]

Ducharme, J. M., Sanjuan, E., & Frain, T. (2007). Errorless compliance training: Success-focused behavioral treatment of children with asperger syndrome. *Behavioral Modification, 31*(3), 329-344. [Ducharme_2007.1]

Dudley, L. L., Johnson, C., & Barnes, R. (2002). Decreasing rumination using a starchy food satiation procedure. *Behavioral Interventions, 17*(1), 21-29. [Dudley_2002.1]

Dunlap, G., & Koegel, R. L. (1980). Motivating autistic children through stimulus variation. *Journal of Applied Behavior Analysis, 13*(4), 619-627. [Dunlap_1980.1]

Dunlap, G. (1984). The influence of task variation and maintenance tasks on the learning and affect of autistic children. *Journal of Experimental Child Psychology, 37*(1), 41-64. [Dunlap_1984.1]

Dunlap, G., & Johnson, J. (1985). Increasing the independent responding of autistic children with unpredictable supervision. *Journal of Applied Behavior Analysis, 18(*3), 227-236. [Dunlap_1985.1]

Endicott, K., & Higbee, T. S. (2007). Contriving motivating operations to evoke mands for information in preschoolers with autism. *Research in Autism Spectrum Disorders, 1*, 210-217. [Endicott_2007.1.a.b]

Finkel, A. S., & Williams, R. L. (2001). A comparison of textual and echoic prompts on the acquisition of intraverbal behavior in a six-year-old boy with autism. *The Analysis of Verbal Behavior, 18,* 61-70. [Finkel_2001.1]

Fisher, W. W., Lindauer, S. E., Alterson, C. J., & Thompson, R. H. (1998). Assessment and treatment of destructive behavior maintained by stereotypic object manipulation. *Journal of Applied Behavior Analysis, 31*(4), 513-527. [Fisher.W_1998.1.b.c]

Freeman, B. J., Ritvo, E., & Miller, R. (1975). An operant procedure to teach an echolalic, autistic child to answer questions appropriately. *Journal of Autism and Childhood Schizophrenia, 5*(2), 169-176. [Freeman_1975.1]

Godby, S., Gast, D. L., & Wolery, M. (1987). A comparison of time delay and system of least prompts in teaching object identification. *Research in Developmental Disabilities, 8*(2), 283-305. [Godby_1987.1]

Graff, R. B., & Green, G. (2004). Two methods for teaching simple visual discriminations to learners with severe disabilities. *Research in Developmental Disabilities, 25*(3), 295-307. [Graff_2004.1.b]

Grindle, C. F., & Remington, B. (2004). Teaching children with autism using conditioned cue-value and response-marking procedures: a socially valid procedure. *Research in Developmental Disabilities, 25*(5), 413-429. [Grindle_2004.1]

Grindle, C. F., & Remington, B. (2005). Teaching children with autism when reward is delayed. The effects of two kinds of marking stimuli. *Journal of Autism and Developmental Disorders, 35*(6), 839-850. [Grindle_2005.1]

Harding, J. W., Wacker, D. P., Berg, W. K., Barretto, A., & Rankin, B. (2002). Assessment and treatment of severe behavior problems using choice-making procedures. *Education & Treatment of Children, 25*(1), 26-46. [Harding_2002.1]

Heckaman, K. A., Alber, S., Hooper, S., & Heward, W. L. (1998). A comparison of least-to-most prompts and progressive time delay on the disruptive behavior of students with autism. *Journal of Behavioral Education, 8*(2), 171-201. [Heckaman_1998.1.a.b]

Heering, P. W., Wilder, D. A., & Ladd, C. (2003). Liquid rescheduling for the treatment of rumination. *Behavioral Interventions, 18*(3), 199-207. [Heering_2003.1]

Houlihan, D., Jacobson, L., & Brandon, P. K. (1994). Replication of a high-probability request sequence with varied interprompt times in a preschool setting. *Journal of Applied Behavior Analysis, 27*(4), 737-738. [Houlihan_1994.1]

Ingenmey, R., & Van Houten, R. (1991). Using time delay to promote spontaneous speech in an autistic child. *Journal of Applied Behavior Analysis, 24*(3), 591-596. [Ingenmey_1991.1]

Keeling, K., Myles, B. S., Gagnon, E., & Simpson, R. L. (2003). Using the power card strategy to teach sportsmanship skills to a child with autism. *Focus on Autism and Other Developmental Disabilities, 18*(2), 105-111. [Keeling_2003.1]

Kennedy, C. H. (1994). Manipulating antecedent conditions to alter the stimulus control of problem behavior. *Journal of Applied Behavior Analysis, 27*(1), 161-170. [Kennedy_1994.1]

Koegel, L. K., Koegel, R. L., Frea, W., & Green-Hopkins, I. (2003). Priming as a method of coordinating educational services for students with autism. *Language, Speech, and Hearing Services in Schools, 34*(3), 228-235. [Koegel.L_2003.1]

Koegel, R. L., & Egel, A. L. (1979). Motivating autistic children. *Journal of Abnormal Psychology, 88*(4), 418-426. [Koegel.R_1979.2]

Koegel, R. L., Dunlap, G., & Dyer, K. (1980). Intertrial interval duration and learning in autistic children. *Journal of Applied Behavior Analysis, 13*(1), 91-99. [Koegel.R_1980.1.a]

Koegel, R. L., Dunlap, G., Richman, G. S., & Dyer, K. (1981). The use of specific orienting cues for teaching discrimination tasks. *Analysis & Intervention in Developmental Disabilities, 20,* 243-252. [Koegel.R_1981.1]

Leung, J. P., & Wu, K. I. (1997). Teaching receptive naming of Chinese characters to children with autism by incorporating echolalia. *Journal of Applied Behavior Analysis, 30*(1), 59-68. [Leung_1997.1.a.b]

Levin, L., & Carr, E. G. (2001). Food selectivity and problem behavior in children with developmental disabilities. Analysis and intervention. *Behavior Modification, 25*(3), 443-470. [Levin_2001.1]

Luiselli, J. K., Ricciardi, J. N., Schmidt, S., & Tarr, M. (2004). Brief functional analysis and intervention evaluation for treatment of saliva-play. *Child & Family Behavior Therapy, 26*(3), 53-61. [Luiselli_2004.1]

Luiselli, J. K., Ricciardi, J. N., & Gilligan, K. (2005). Liquid fading to establish milk consumption by a child with autism. *Behavioral Interventions, 20*(2), 155-163. [Luiselli_2005.1]

Mace, F. C., Mauro, B. C., Boyajian, A. E., & Eckert, T. L. (1997). Effects of reinforcer quality on behavioral momentum: Coordinated applied and basic research. *Journal of Applied Behavior Analysis, 30*(1), 1-20. [Mace.F_1997.1.a.b]

Matson, J. L., Sevin, J. A., Box, M. L., Francis, K. L., & Sevin, B. M. (1993). An evaluation of two methods for increasing self-initiated verbalizations in autistic children. *Journal of Applied Behavior Analysis, 26*(3), 389-398. [Matson_1993.1]

Matson, J. L., & Francis, K. L. (1994). Generalizing spontaneous language in developmentally delayed children via a visual cue procedure using caregivers as therapists. *Behavior Modification, 18*(2), 186-197. [Matson_1994.1]

McEvoy, M. A., Nordquist, V. M., Twardosz, S., Heckaman, K. A., Wehby, J. H., & Denny, R. K. (1988). Promoting autistic children's peer interaction in an integrated early childhood setting using affection activities. *Journal of Applied Behavior Analysis, 21*(2), 193-200. [McEvoy_1988.2]

Meyer, L. H., Fox, A., Schermer, A., Ketelsen, D., Montan, N., Maley, K., et al. (1987). The effects of teacher intrusion on social play interactions between children with autism and their nonhandicapped peers. *Journal of Autism and Developmental Disorders, 17*, 315-332. [Meyer_1987.1]

Miller, C., Collins, B. C., & Hemmeter, M. L. (2002). Using a naturalistic time delay procedure to teach nonverbal adolescents with moderate-to-severe mental disabilities to initiate manual signs. *Journal of Developmental and Physical Disabilities, 14(*3), 247-261. [Miller.C_2002.1]

Moes, D. R. (1998). Integrating choice-making opportunities within teacher-assigned academic tasks to facilitate the performance of children with autism. *Journal of the Association for Persons with Severe Handicaps, 23*(4), 319-328. [Moes_1998.1]

Morrison, K., & Rosales-Ruiz, J. (1997). The effect of object preferences on task performance and stereotypy in a child with autism. *Research in Developmental Disabilities, 18*(2), 127-137. [Morrison.K_1997.1]

Murzynski, N. T., & Bourret, J. C. (2007). Combining video modeling and least-to-most prompting for establishing a response chain. *Behavioral Interventions, 22*, 147-152. [Murzynski_2007.1]

Napolitano, D. A., Tessing, J. L., McAdam, D. B., Dunleavy, J., & Cifuni, N. M. (2006). The influence of idiosyncratic antecedent variables on problem behavior displayed by a person with PDD-NOS. *Journal of Developmental and Physical Disabilities, 18*(3), 295-305. [Napolitano_2006.1]

Nelson, D. L., Gergenti, E., & Hollander, A. C. (1980). Extra prompts versus no extra prompts in self-care training of autistic children and adolescents. *Journal of Autism and Developmental Disorders, 10*(3), 311-321. [Nelson.D_1980.1]

Odom, S. L., & Strain, P. S. (1986). A comparison of peer-initiation and teacher-antecedent interventions for promoting reciprocal social interaction of autistic preschoolers. *Journal of Applied Behavior Analysis, 19*(1), 59-71. [Odom_1986.1]

Peck, C. A. (1985). Increasing opportunities for social control by children with autism and severe handicaps: Effects on student behavior and perceived classroom climate. *Journal of the Association for Persons with Severe Handicaps, 10*(4), 183-193. [Peck_1985.1]

Peterson, S. M., Caniglia, C., & Royster, A. J. (2001). Application of choice-making intervention for a student with multiply maintained problem behavior. *Focus on Autism and Other Developmental Disabilities, 16*(4), 240-246. [Peterson_2001.1]

Peyton, R. T., Lindauer, S. E., & Richman, D. M. (2005). The effects of directive and nondirective prompts on noncompliant vocal behavior exhibited by a child with autism. *Journal of Applied Behavior Analysis, 38*(2), 251-255. [Peyton_2005.1]

Piazza, C. C., Hanley, G. P., & Fisher, W. W. (1996). Functional analysis and treatment of cigarette pica. *Journal of Applied Behavior Analysis, 29*(4), 437-450. [Piazza_1996.2]

Rapp, J. T., Vollmer, T. R., & Hovanetz, A. N. (2005). Evaluation and treatment of swimming pool avoidance exhibited by an adolescent girl with autism. *Behavior Therapy, 36*(1), 101-105. [Rapp_2005.1]

Rapp, J. T. (2006). Toward an empirical method for identifying matched stimulation for automatically reinforced behavior: A preliminary investigation. *Journal of Applied Behavior Analysis, 39*(1), 137-140. [Rapp_2006.1]

Ray, K. P., Skinner, C. H., & Watson, T. (1999). Transferring stimulus control via momentum to increase compliance in a student with autism: A demonstration of collaborative consultation. *School Psychology Review, 28*(4), 622-628. [Ray.K_1999.1]

Reinhartsen, D. B., Garfinkle, A. N., & Wolery, M. (2002). Engagement with toys in two-year-old children with autism: Teacher selection versus child choice. *Research and Practice for Persons with Severe Disabilities, 27*(3), 175-187. [Reinhartensen_2002.1]

Richer, J., & Richards, B. (1975). Reacting to autistic children: The danger of trying too hard. *The British Journal of Psychiatry: The Journal of Mental Science, 127*, 526-529. [Richer_1975.1]

Roberts-Pennel, D., & Sigafoos, J. (1999). Teaching young children with developmental disabilities to request more play using the behaviour chain interruption strategy. *Journal of Applied Research in Intellectual Disabilities, 12*(1), 100-112. [Roberts-Pennel_1999.1]

Romaniuk, C., Miltenberger, R., Conyers, C., Jenner, N., & Jurgens, M. (2002). The influence of activity choice on problem behaviors maintained by escape versus attention. *Journal of Applied Behavior Analysis, 35*(4), 349-362. [Romaniuk_2002.1]

Romano, J. P., & Roll, D. (2000). Expanding the utility of behavioral momentum for youth with developmental disabilities. *Behavioral Interventions, 15*, 99-111. [Romano_2000.1]

Runco, M. A., Charlop, M. H., & Schreibman, L. (1986). The occurrence of autistic children's self-stimulation as a function of familiar versus unfamiliar stimulus conditions. *Journal of Autism and Developmental Disorders, 16*(1), 31-44. [Runco_1986.1]

Sainato, D. M., Strain, P. S., Lefebvre, D., & Rapp, N. (1987). Facilitating transition times with handicapped preschool children: A comparison between peer-mediated and antecedent prompt procedures. *Journal of Applied Behavior Analysis, 20*(3), 285-291. [Sainato_1987.1]

Saunders, R. R., Saunders, M. D., Brewer, A., & Roach, T. (1996). Reduction of self injury in two adolescents with profound retardation by the establishment of a supported routine. *Behavioral Interventions, 11*(2), 59-86. [Saunders_1996.1.b]

Sawyer, L. M., Luiselli, J. K., Ricciardi, J. N., & Gower, J. L. (2005). Teaching a child with autism to share among peers in an integrated preschool classroom: Acquisition, maintenance, and social validation. *Education & Treatment of Children, 28*(1), 1-10. [Sawyer_2005.1]

Schilling, D. L., & Schwartz, I. S. (2004). Alternative seating for young children with autism spectrum disorder: Effects on classroom behavior. *Journal of Autism and Developmental Disorders, 34*(4), 423-432. [Schilling_2004.1]

Schreibman, L. (1975). Effects of within-stimulus and extra-stimulus prompting on discrimination learning in autistic children. *Journal of Applied Behavior Analysis, 8*(1), 91-112. [Schreibman_1975.1]

Schreibman, L., Koegel, R. L., & Craig, M. S. (1977). Reducing stimulus overselectivity in autistic children. *Journal of Abnormal Child Psychology, 5*(4), 425-436. [Schreibman_1977.1]

Sidener, T. M., Carr, J. E., & Firth, A. M. (2005). Superimposition and withholding of edible consequences as treatment for automatically reinforced stereotypy. *Journal of Applied Behavior Analysis, 38*(1), 121-124. [Sidener_2005.1]

Smith, M. R., & Lerman, D. C. (1999). A preliminary comparison of guided compliance and high-probability instructional sequences as treatment for noncompliance in children with developmental disabilities. *Research in Developmental Disabilities, 20*(3), 183-195. [Smith.MR_1999.1]

Solnick, J. V., Rincover, A., & Peterson, C. R. (1977). Some determinants of the reinforcing and punishing effects of timeout. *Journal of Applied Behavior Analysis, 10*(3), 415-424. [Solnick_1977.1.a]

Sweeney, H. M., & LeBlanc, J. M. (1995). Effects of task size on work-related and aberrant behaviors of youths with autism and mental retardation. *Research in Developmental Disabilities, 16*(2), 97-115. [Sweeney_1995.1]

Symons, F., & Davis, M. (1994). Instructional conditions and stereotyped behavior: The function of prompts. *Journal of Behavior Therapy and Experimental Psychiatry, 25*(4), 317-324. [Symons_1994.1]

Taber, T. A., Seltzer, A., Heflin, L. J., & Alberto, P. A. (1999). Use of self-operated auditory prompts to decrease off-task behavior for a student with autism and moderate mental retardation. *Focus on Autism and Other Developmental Disabilities, 14*(3), 159-166. [Taber_1999.1]

Taylor, B. A., & Harris, S. L. (1995). Teaching children with autism to seek information: Acquisition of novel information and generalization of responding. *Journal of Applied Behavior Analysis, 28*(1), 3-14. [Taylor.B_1995.1.a.b.c]

Taylor, B. A., Hoch, H., Potter, B., Rodriguez, A., Spinnato, D., & Kalaigian, M. (2005). Manipulating establishing operations to promote initiations toward peers in children with autism. *Research in Developmental Disabilities, 26,* 385-392. [Taylor.B_2005.2]

Van Camp, C. M., Vollmer, T. R., & Daniel, D. (2001). A systematic evaluation of stimulus preference, response effort, and stimulus control in the treatment of automatically reinforced self-injury. *Behavior Therapy, 32*(3), 603-613. [Van Camp_2001.1]

Venn, M., Wolery, M., Werts, M., & Morris, A. (1993). Embedding instruction in art activities to teach preschoolers with disabilities to imitate their peers. *Early Childhood Research Quarterly, 8*(3), 277-294. [Venn_1993.1]

West, E. A., & Billingsley, F. (2005). Improving the system of least prompts: A comparison of procedural variations. *Education and Training in Developmental Disabilities, 40*(2), 131-144. [West_2005.1]

Winterling, V. M., Dunlap, G., & O'Neill, R. E. (1987). The influence of task variation on the aberrant behaviors of autistic students. *Education & Treatment of Children, 10*(2), 105-119. [Winterling_1987.1.a]

Yilmaz, I., Birkan, B., Konukman, F., & Erkan, M. (2005). Using a constant time delay procedure to teach aquatic play skills to children with autism. *Education and Training in Developmental Disabilities, 40*(2), 171-182. [Yilmaz_2005.1]

Auditory Integration Training

Edelson, S. M., Edelson, M. G., Kerr, D. C., & Grandin, T. (1999). Behavioral and physiological effects of deep pressure on children with autism: A pilot study evaluating the efficacy of Grandin's Hug Machine. *The American Journal of Occupational Therapy: Official Publication of the American Occupational Therapy Association, 53*(2), 145-152. [Edelson_1999.1]

Mudford, O. C., Cross, B. A., Breen, S., Cullen, C., Reeves, D., Gould, J., et al. (2000). Auditory integration training for children with autism: No behavioral benefits detected. *American Journal of Mental Retardation: AJMR, 105*(2), 118-129. [Mudford_2000.1]

Rimland, B., & Edelson, S. M. (1995). Brief report: A pilot study of auditory integration training in autism. *Journal of Autism and Developmental Disorders, 25*(1), 61-70. [Rimland_1995.1]

Augmentative and Alternative Communication Device (AAC)

Cafiero, J. M. (2001). The effect of an augmentative communication intervention on the communication, behavior, and academic program of an adolescent with autism. *Focus on Autism and Other Developmental Disabilities, 16*(3), 179-189. [Cafiero_2001.1]

Dyches, T. T. (1998). Effects of switch training on the communication of children with autism and severe disabilities. *Focus on Autism and Other Developmental Disabilities, 14*(2), 82-95. [Dyches_1998.1]

Frea, W. D., Arnold, C., & Vittimberger, G. L. (2001). A demonstration of the effects of augmentative communication on the extreme aggressive behavior of a child with autism within an integrated preschool setting. *Journal of Positive Behavior Interventions, 3,* 194-198. [Frea_2001.1]

Lancioni, G. E. (1983). Using pictorial representations as communication means with low-functioning children. *Journal of Autism and Developmental Disorders, 13*(1), 87-105. [Lancioni_1983.1]

Parsons, C. L., & La Sorte, D. (1993). The effects of computers with synthesized speech and no speech on the spontaneous communication of children with autism. *Australian journal of human communication disorders, 21*, 12-31. [Parsons_1993.1]

Roane, H. S., Fisher, W. W., Sgro, G. M., Falcomata, T. S., & Pabico, R. R. (2004). An alternative method of thinning reinforcer delivery during differential reinforcement. *Journal of Applied Behavior Analysis, 37*(2), 213-218. [Roane_2004.1]

Schlosser, R. W., Sigafoos, J., Luiselli, J. K., Angermeier, K., Harasymowyz, U., Schooley, K., & Belfiore, P. J. (2007). Effects of synthetic speech output on requesting and natural speech production in children with autism: A preliminary study. *Research in Autism Spectrum Disorders, 1*, 139-163. [Schlosser_2007.1]

Sigafoos, J., Didden, R., & O'Reilly, M. (2003). Effects of speech output on maintenance of requesting and frequency of vocalizations in three children with developmental disabilities. *AAC: Augmentative and Alternative Communication, 19*(1), 37-47. [Sigafoos_2003.1]

Sigafoos, J., O'Reilly, M., Seely-York, S., & Edrisinha, C. (2004). Teaching students with developmental disabilities to locate their AAC device. *Research in Developmental Disabilities, 25*(4), 371-383. [Sigafoos_2004.1]

Sigafoos, J., O'Reilly, M., Seely-York, S., Weru, J., Son, S., Green, V., et al. (2004). Transferring AAC intervention to the home. *Disability and Rehabilitation: An International Multidisciplinary Journal, 26*(21-22), 1330-1334. [Sigafoos_2004.2]

Sigafoos, J., Drasgow, E., Halle, J. W., O'Reilly, M., Seely-York, S., & Edrisinha, C., et al. (2004). Teaching VOCA use as a communicative repair strategy. *Journal of Autism and Developmental Disorders, 34*(4), 411-422. [Sigafoos_2004.3]

Sigafoos, J., Ganz, J. B., O'Reilly, M., Lancioni, G. E., Schlosser, R. W. (2007). Assessing correspondence following acquisition of an exchange-based communication system. *Research in Developmental Disabilities, 28*, 71-83. [Sigafoos_2007.1]

Son, S., Sigafoos, J., O'Reilly, M., & Lancioni, G. E. (2006). Comparing two types of augmentative and alternative communication systems for children with autism. *Pediatric Rehabilitation, 9*(4), 389-395. [Son_2006.1]

Stiebel, D. (1999). Promoting augmentive communication during daily routines: A parent problem-solving intervention. *Journal of Positive Behavior Interventions, 1*(3), 159-169. [Stiebel_1999.1]

Behavioral Package

Adelinis, J. D., Piazza, C. C., & Goh, H. (2001). Treatment of multiply controlled destructive behavior with food reinforcement. *Journal of Applied Behavior Analysis, 34*(1), 97-100. [Adelinis_2001.1]

Ahearn, W. H., Clark, K. M., MacDonald, R. P. F., & Chung, B. I. (2007). Assessing and treating vocal stereotypy in children with autism. *Journal of Applied Behavior Analysis, 40*, 263-275. [Ahearn_2007.1]

Anderson, C. M., & McMillan, K. (2001). Parental use of escape extinction and differential reinforcement to treat food selectivity. *Journal of Applied Behavior Analysis, 34*(4), 511-515. [Anderson.C_2001.1]

Anderson, C. M., & Long, E. S. (2002). Use of a structured descriptive assessment methodology to identify variables affecting problem behavior. *Journal of Applied Behavior Analysis, 35*(2), 137-154. [Anderson.C_2002.1]

Apple, A. L., Billingsley, F., & Schwartz, I. S. (2005). Effects of video modeling alone and with self-management on compliment-giving behaviors of children with high-functioning ASD. *Journal of Positive Behavior Interventions, 7*(1), 33-46. [Apple_2005.1.a]

Ayllon, T., & Skuban, W. (1973). Accountability in psychotherapy: A test case. *Journal of Behavior Therapy and Experimental Psychiatry, 4*(1), 19-30. [Ayllon_1973.1]

Barbera, M. L., & Kubina, Jr., R. M. (2005). Using transfer procedures to teach tacts to a child with autism. *The Analysis of Verbal Behavior, 21*, 155-161. [Barbera_2005.1]

Barry, L. M., & Singer, G. H. (2001). A family in crisis: Replacing the aggressive behavior of a child with autism toward an infant sibling. *Journal of Positive Behavior Interventions, 3*(1), 28-38. [Barry.L_2001.1]

Bartlett, D., Ora, J. P., Brown, E., & Butler, J. (1971). The effects of reinforcement on psychotic speech in a case of early infantile autism, age 12. *Journal of Behavior Therapy and Experimental Psychiatry, 2*(2), 145-149. [Bartlett_1971.1]

Beck, M. H., Cataldo, M., Slifer, K. J., Pulbrook, V., & Guhman, J. K. (2005). Teaching children with attention deficit hyperactivity disorder (ADHD) and autistic disorder (AD) how to swallow pills. *Clinical Pediatrics, 44*(6), 515-526. [Beck.M_2005.1]

Ben-Itzchak, E., Esther, Z., & Ditza, A. (2007). The effects of intellectual functioning and autism severity on outcome of early behavioral intervention for children with autism. *Research in Developmental Disabilities, 28*(3), 287-303. [Ben-Itzchak_2007.1]

Bourret, J., Vollmer, T. R., & Rapp, J. T. (2004). Evaluation of a vocal mand assessment and vocal mand training procedures. *Journal of Applied Behavior Analysis, 37*(2), 129-143. [Bourret_2004.1.b]

Braithwaite, K. L., & Richdale, A. L. (2000). Functional communication training to replace challenging behaviors across two behavioral outcomes. *Behavioral Interventions, 15*(1), 21-36. [Braithwaite_2000.1]

Brawley, E. R., Harris, F. R., Allen, K. E., Fleming, R. S., & Peterson, R. F. (1969). Behavior modification of an autistic child. *Behavioral Science, 14*(2), 87-97. [Brawley_1969.1]

Brown, K. A., Wacker, D. P., Derby, K. M., Peck, S. M., Richman, D. M., Sasso, G. M., et al. (2000). Evaluating the effects of functional communication training in the presence and absence of establishing operations. *Journal of Applied Behavior Analysis, 33*(1), 53-71. [Brown.KA_2000.1]

Brown, K. E., & Mirenda, P. (2006). Contingency mapping: Use of a novel visual support strategy as an adjunct to functional equivalence training. *Journal of Positive Behavior Interventions, 8*(3), 155-164. [Brown.KE_2006.1]

Buckley, S. D., & Newchok, D. K. (2005). Differential impact of response effort within a response chain on use of mands in a student with autism. *Research in Developmental Disabilities, 26*(1), 77-85. [Buckley_2005.1.b]

Buckley, S. D., & Newchok, D. K. (2005). An evaluation of simultaneous presentation and differential reinforcement with response cost to reduce packing. *Journal of Applied Behavior Analysis, 38*(3), 405-409. [Buckley_2005.2]

Buckley, S. D., Strunck, P. G., & Newchok, D. K. (2005). A comparison of two multi component procedures to increase food consumption. *Behavioral Intervention, 20*, 139-146. [Buckley_2005.3]

Buckley, S. D., & Newchok, D. K. (2006). Analysis and treatment of problem behavior evoked by music. *Journal of Applied Behavior Analysis, 39,* 141-144. [Buckley_2006.1]

Burke, J. C., & Cerniglia, L. (1990). Stimulus complexity and autistic children's responsivity: Assessing and training a pivotal behavior. *Journal of Autism and Developmental Disorders, 20*(2), 233-253. [Burke_1990.1]

Butler, L. R., & Luiselli, J. K. (2007). Escape-maintained problem behavior in a child with autism: Antecedent functional analysis and intervention evaluation of noncontingent escape and instructional fading. *Journal of Positive Behavior Interventions, 9*(4), 195-202. [Butler.L_2007.1]

Cameron, M.J., Shapiro, R.L., Ainsleigh, S.A. (2005). Bicycle riding: Pedaling made possible through positive behavioral interventions. *Journal of Positive Behavior Interventions, 7*(3), 153-158. [Cameron_2005.1]

Campbell, R. V., & Lutzker, J. R. (1993). Using functional equivalence training to reduce severe challenging behavior: A case study. *Journal of Developmental and Physical Disabilities, 5*(3), 203-216. [Campbell_1993.1]

Carr, D. (2003). Effects of exemplar training in exclusion responding on auditory-visual discrimination tasks with children with autism. *Journal of Applied Behavior Analysis, 36*(4), 507-524. [Carr.D_2003.1.a.b]

Carr, E. G. & Durand, V. M. (1985). Reducing behavior problems through functional communication training. *Journal of Applied Behavior Analysis, 18*, 111-126. [Carr.E_1985.1.b]

Carr, E. G., & Newsom, C. (1985). Demand-related tantrums: Conceptualization and treatment. *Behavior Modification, 9*(4), 403-426. [Carr.E_1985.2.b]

Carr, E. G., & Carlson, J. I. (1993). Reduction of severe behavior problems in the community using a multicomponent treatment approach. *Journal of Applied Behavior Analysis, 26*(2), 157-172. [Carr.E_1993.1]

Casey, S. D., & Merical, C. L. (2006). The use of functional communication training without additional treatment procedures in an inclusive school setting. *Behavioral Disorders, 32*(1), 46-54. [Casey.S_2006.1]

Charlop, M. H., Kurtz, P. F., & Casey, F. G. (1990). Using aberrant behaviors as reinforcers for autistic children. *Journal of Applied Behavior Analysis, 23*(2), 163-181. [Charlop_1990.1.a.b.c]

Charlop, M. H., Kurtz, P. F., & Milstein, J. P. (1992). Too much reinforcement, too little behavior: Assessing task interspersal procedures in conjunction with different reinforcement schedules with autistic children. *Journal of Applied Behavior Analysis, 25*(4), 795-808. [Charlop_1992.1]

Charlop-Christy, M. H., & Haymes, L. K. (1996). Using obsessions as reinforcers with and without mild reductive procedures to decrease inappropriate behaviors of children with autism. *Journal of Autism and Developmental Disorders, 26*(5), 527-546. [Charlop-Christy_1996.1]

Charlop-Christy, M. H., & Haymes, L. K. (1998). Using objects of obsession as token reinforcers for children with autism. *Journal of Autism and Developmental Disorders, 28*(3), 189-198. [Charlop-Christy_1998.1]

Cicero, F. R., & Pfadt, A. (2002). Investigation of a reinforcement-based toilet training procedure for children with autism. *Research in Developmental Disabilities, 23*(5), 319-331. [Cicero_2002.1]

Clarke, S., Dunlap, G., & Vaughn, B. (1999). Family-centered, assessment-based intervention to improve behavior during an early morning routine. *Journal of Positive Behavior Interventions, 1*(4), 235-241. [Clarke_1999.1]

Coe, D., Matson, J., Fee, V., Manikam, R., & Linarello, C. (1990). Training nonverbal and verbal play skills to mentally retarded and autistic children. *Journal of Autism and Developmental Disorders, 20*(2), 177-187. [Coe_1990.1]

Colletti, G., & Harris, S. L. (1977). Behavior modification in the home: Siblings as behavior modifiers, parents as observers. *Journal of Abnormal Child Psychology, 5*(1), 21-30. [Colleti_1977.1]

Colligan, R. C., & Bellamy, C. M. (1968). Effects of a two year treatment program for a young autistic child. *Psychotherapy: Theory, Research & Practice, 5*(4), 214-219. [Colligan_1968.1]

Day, H., Horner, R. H., & O'Neill, R. E. (1994). Multiple functions or problem behaviors: Assessment and intervention. *Journal of Applied Behavior Analysis, 27*(2), 279-289. [Day_1994.1]

DeLeon, I. G., Anders, B. M., Rodriguez-Catter, V., & Neidert, P. L. (2000). The effects of noncontingent access to single- versus multiple-stimulus sets on self-injurious behavior. *Journal of Applied Behavior Analysis, 33*(4), 623-626. [DeLeon_2000.1]

DeLeon, I. G., Neidert, P. L., Anders, B. M., & Rodriguez-Catter, V. (2001). Choices between positive and negative reinforcement during treatment for escape-maintained behavior. *Journal of Applied Behavior Analysis, 34*(4), 521-225. [DeLeon_2001.1]

DeLeon, I. G., Fisher, W. W., & Marhefka, J. M. (2004). Decreasing self-injurious behavior associated with awakening in a child with autism and developmental delays. *Behavioral Interventions, 19*, 111-119. [DeLeon_2004.1]

Dib, N., & Sturmey, P. (2007). Reducing student stereotypy and improving teachers implementation of discrete-trial teaching. *Journal of Applied Behavior Analysis, 40*(2), 339-343. [Dib_2007.1]

Dozier, C. L., Carr, J. E., Enlof, K., Landaburu, H., Eastridge, D., & Kellum, K. K. (2001). Using fixed-time schedules to maintain behavior: A preliminary investigation. *Journal of Applied Behavior Analysis, 34*(3), 337-340. [Dozier_2001.1]

Drasgow, E., Halle, J. W., & Ostrosky, M. M. (1998). Effects of differential reinforcement on the generalization of a replacement mand in three children with severe language delays. *Journal of Applied Behavior Analysis, 31*(3), 357-374. [Drasgow_1998.1]

Drash, P. W., High, R. L., & Tudor, R. M. (1999). Using mand training to establish an echoic repertoire in young children with autism. *The Analysis of Verbal Behavior, 16*, 29-44. [Drash_1999.1]

Dunlap, G., Koegel, R. L., Johnson, J., & O'Neill, R. E. (1987). Maintaining performance of autistic clients in community settings with delayed contingencies. *Journal of Applied Behavior Analysis, 20*(2), 185-191. [Dunlap_1987.1]

Dunlap, G., & Fox, L. (1999). A demonstration of behavioral support for young children with autism. [Electronic version]. *Journal of Positive Behavior Interventions, 1*(2), 77-87. [Dunlap_1999.1]

Durand, V. M., & Carr, E. G. (1987). Social influences on "self-stimulatory" behavior: Analysis and treatment application. *Journal of Applied Behavior Analysis, 20*(2), 119-132. [Durand_1987.1]

Durand, V. M., & Crimmins, D. B. (1987). Assessment and treatment of psychotic speech in an autistic child. *Journal of Autism and Developmental Disorders, 17*(1), 17-28. [Durand_1987.2]

Durand, V. M., & Carr, E. G. (1991). Functional communication training to reduce challenging behavior: Maintenance and application in new settings. *Journal of Applied Behavior Analysis, 24*(2), 251-264. [Durand_1991.1.b.c]

Durand, V. M., & Carr, E. G. (1992). An analysis of maintenance following functional communication training. *Journal of Applied Behavior Analysis, 25*(4), 777-794. [Durand_1992.1.c]

Durand, V. M. (1999). Functional communication training using assistive devices: Recruiting natural communities of reinforcement. *Journal of Applied Behavior Analysis, 32*, 247-267. [Durand_1999.1.b.c]

Durand, V. M. (2002). Treating sleep terrors in children with autism. *Journal of Positive Behavior Interventions, 4*(2), 66-72. [Durand_2002.1]

Durand, V. M., Christodulu, K. V., & Koegel, R. L. (2004). Description of a sleep-restriction program to reduce bedtime disturbances and night waking. *Journal of Positive Behavior Interventions, 6*(2), 83-91. [Durand_2004.1]

Dyer, K. (1987). The competition of autistic stereotyped behavior with usual and specially assessed reinforcers. *Research in Developmental Disabilities, 8*(4), 607-626. [Dyer_1987.1]

Eason, L. J., White, M. J., & Newson, C. (1982). Generalized reduction of self stimulatory behavior: An effect of teaching appropriate play to autistic children. *Analysis and Intervention in Developmental Disabilities, 2*(2-3), 157-169. [Eason_1982.1]

Egan, P. J., Zlomke, L. C., & Bush, B. R. (1993). Utilizing functional assessment, behavioral consultation and videotape review of treatment to reduce aggression: A case study. *Special Services in the Schools, 7*(1), 27-37. [Egan_1993.1]

Esbenshade, P. H., & Rosales-Ruiz, J. (2001). Programming common stimuli to promote generalized question-asking: A case demonstration in a child with autism. *Journal of Positive Behavior Interventions, 3*(4), 199-210. [Esbenshade_2001.1]

Esch, B. E., Carr, J. E., & Michael, J. (2005). Evaluating stimulus-stimulus pairing and direct reinforcement in the establishment of an echoic repertoire of children diagnosed with autism. *The Analysis of Verbal Behavior, 21*, 43-58. [Esch_2005.1.a.b.c]

Falcomata, T. S., Roane, H. S., Hovanetz, A. N., Kettering, T. L., & Keeney, K. M. (2004). An evaluation of response cost in the treatment of inappropriate vocalizations maintained by automatic reinforcement. *Journal of Applied Behavior Analysis, 37*(1), 83-87. [Falcomata_2004.1]

Fantuzzo, J. W., & Smith, C. S. (1983). Programmed generalization of dress efficiency across settings for a severely disturbed, autistic child. *Psychological Reports, 53*(3), 871-879. [Fantuzzo_1983.1]

Fantuzzo, J. W., & Smith, C. (1984). Linking community-based treatment settings for a disturbed autistic child. *Education & Training of the Mentally Retarded, 19*(2), 102-107. [Fantuzzo_1984.1]

Fisher, W. W., Kuhn, D. E., & Thompson, R. H. (1998). Establishing discriminative control of responding using functional and alternative reinforcers during functional communication training. *Journal of Applied Behavior Analysis, 3,* 543-560. [Fisher.W_1998.2]

Fisher, W. W., Thompson, R. H., Hagopian, L. P., Bowman, L. G., & Krug, A. (2000). Facilitating tolerance of delayed reinforcement during functional communication training. *Behavior Modification, 24*(1), 3-29. [Fisher.W_2000.1.c]

Fisher, W. W., Adelinis, J. D., Volkert, V. M., Keeney, K. M., Neidert, P. L., & Hovanetz, A. (2005). Assessing preferences for positive and negative reinforcement during treatment of destructive behavior with functional communication training. *Research in Developmental Disabilities, 26*, 153-168. [Fisher.W_2005.1]

Foxx, R. M., & Garito, J. (2007). The long term successful treatment of the very severe behaviors of a preadolescent with autism. *Behavioral Interventions, 22*(1), 69-82. [Foxx_2007.1]

Foxx, R. M., & Meindl, J. (2007).The long term successful treatment of the aggressive/destructive behaviors of a preadolescent with autism. *Behavioral Interventions, 22*(1), 83-97. [Foxx_2007.2]

Galiatsatos, G., & Graff, R. B. (2003). Combining descriptive and functional analyses to assess and treat screaming. *Behavioral Interventions, 18*(2), 123-138. [Galiatsatos_2003.1.b]

Gena, A., Couloura, S., & Kymissis, E. (2005). Modifying the affective behavior of preschoolers with autism using in-vivo or video modeling and reinforcement contingencies. *Journal of Autism and Developmental Disorders, 35*(5), 545-556. [Gena_2005.1]

Gerdtz, J. (2000). Evaluating behavioral treatment of disruptive classroom behaviors of an adolescent with autism. *Research on Social Work Practice, 10*(1), 98-110. [Gerdtz_2000.1]

Goldsmith, T. R., LeBlanc, L. A., & Sautter, R. A. (2007). Teaching intraverbal behavior to children with autism. *Research in Autism Spectrum Disorders, 1*(1), 1-13. [Goldsmith_2007.1]

Graff, R. B., & Green, G. (2004). Two methods for teaching simple visual discriminations to learners with severe disabilities. *Research in Developmental Disabilities, 25*(3), 295-307. [Graff_2004.1.a]

Graziano, A. M. (1970). A group treatment approach to multiple problem behaviors of autistic children. *Exceptional Children, 36*(10), 765-770. [Graziano_1970.1]

Greer, R. D., Yaun, L., & Gautreaux, G. (2005). Novel dictation and intraverbal responses as a function of a multiple exemplar instructional history. *The Analysis of Verbal Behavior, 21*, 99-116. [Greer_2005.1.a]

Grey, I. M., Honan, R., McClean, B., & Daly, M. (2005). Evaluating the effectiveness of teacher training in applied behaviour analysis. *Journal of Intellectual Disabilities: JOID, 35*(2), 187-190. [Grey_2005.1]

Grindle, C. F., & Remington, B. (2002). Discrete-trial training for autistic children when reward is delayed: A comparison of conditioned cue value and response marking. *Journal of Applied Behavior Analysis, 35*(2), 187-190. [Grindle_2002.1]

Groden, J., & Cautela, J. (1988). Procedures to increase social interaction among adolescents with autism: A multiple baseline analysis. *Journal of Behavior Therapy and Experimental Psychiatry, 19*(2), 87-93. [Groden.J_1988.1]

Gunter, P. L., Fox, J. J., McEvoy, M. A., Shores, R. E., & et al. (1993). A case study of the reduction of aberrant, repetitive responses of an adolescent with autism. *Education & Treatment of Children, 16*(2), 187-197. [Gunter_1993.1]

Hagopian, L. P., Fisher, W. W., & Legacy, S. M. (1994). Schedule effects of noncontingent reinforcement on attention-maintained destructive behavior in identical quadruplets. *Journal of Applied Behavior Analysis, 27*(2), 317-325. [Hagopian_1994.1]

Hagopian, L., Crockett, J., van Stone, M., Deleon, I., & Bowman, L. (2000). Effects of noncontingent reinforcement on problem behavior and stimulus engagement: The role of satiation, extinction, and alternative reinforcement. *Journal of Applied Behavior Analysis, 33*(4), 433-448. [Hagopian_2000.1]

Hagopian, L. P., Wilson, D. M., & Wilder, D. A. (2001). Assessment and treatment of problem behavior maintained by escape from attention and access to tangible items. *Journal of Applied Behavior Analysis, 34*(2), 229-232. [Hagopian_2001.1]

Hagopian, L., Kuhn, S. A., Long, E. S., & Rush, K. S. (2005). Schedule thinning following communication training: Using competing stimuli to enhance tolerance to decrements in reinforcer density. *Journal of Applied Behavior Analysis, 38*(2), 177-193. [Hagopian_2005.1]

Hagopian, L. P, Bruzek, J. L., Bowman, L. G., & Jennett, H. K. (2007). Assessment and treatment of problem behavior occasioned by interruption of free-operant behavior. *Journal of Applied Behavior Analysis, 40*, 89-103. [Hagopian_2007.1.a]

Handen, B. L., Apolito, P. M., & Seltzer, G. B. (1984). Use of differential reinforcement of low rates of behavior to decrease repetitive speech in an autistic adolescent. *Journal of Behavior Therapy and Experimental Psychiatry, 15*(4), 359-364. [Handen_1984.1]

Hanley, G. P., Piazza, C. C., Fisher, W. W., & Maglieri, K. A. (2005). On the effectiveness of and preference for punishment and extinction components of function-based interventions. *Journal of Applied Behavior Analysis, 38*, 51-65. [Hanley_2005.1]

Harchik, A. E., Harchik, A. J., Luce, S. C., & Sherman, J. A. (1990). Teaching autistic and severely handicapped children to recruit praise: Acquisition and generalization. *Research in Developmental Disabilities, 11*(1), 77-95. [Harchik_1990.1]

Haring, T. G., Breen, C. G., Pitts-Conway, V., & Gaylord-Ross, R. (1986). Use of differential reinforcement of other behavior during dyadic instruction to reduce stereotyped behavior of autistic students. *American Journal of Mental Deficiency, 90*(6), 694-702. [Haring_1986.1]

Haring, T. G., Kennedy, C. H., Adams, M. J., & Pitts-Conway, V. (1987). Teaching generalization of purchasing skills across community settings to autistic youth using videotape modeling. *Journal of Applied Behavior Analysis, 20*(1), 89-96. [Haring_1987.1]

Haring, T. G., & Kennedy, C. H. (1990). Contextual control of problem behavior in students with severe disabilities. *Journal of Applied Behavior Analysis, 23*(2), 234-243. [Haring_1990.1]

Harris, S. L., & Wolchik, S. A. (1979). Suppression of self-stimulation: Three alternative strategies. *Journal of Applied Behavior Analysis, 12*(2), 185-198. [Harris_1979.1.a.b.c]

Harris, S. L., Wolchik, S. A., & Weitz, S. (1981). The acquisition of language skills by autistic children: Can parents do the job? *Journal of Autism and Developmental Disorders, 11*(4), 373-384. [Harris_1981.1]

Harris, S. L., Handleman, J. S., & Alessandri, M. (1990). Teaching youths with autism to offer assistance. *Journal of Applied Behavior Analysis, 23*, 297-305. [Harris_1990.2]

Healey, J. J., Ahearn, W. H., Graff, R. B., & Libby, M. E. (2001). Extended analysis and treatment of self-injurious behavior. *Behavioral Interventions, 16*, 181-195. [Healey_2001.1.b]

Hinerman, P. S., Jenson, W. R., Walker, G. R., & Petersen, P. B. (1982). Positive practice overcorrection combined with additional procedures to teach signed words to an autistic child. *Journal of Autism and Developmental Disorders, 12*(3), 253-263. [Hinerman_1982.1]

Hirsch, N., & Myles, B. S. (1996). The use of a pica box in reducing pica behavior in a student with autism. *Focus on Autism and Other Developmental Disabilities, 11*(4), 222-225, 234. [Hirsch_1996.1]

Hoch, H., McComas, J. J., Thompson, A. L., & Paone, D. (2002). Concurrent reinforcement schedules: Behavior change and maintenance without extinction. *Journal of Applied Behavior Analysis, 35*(2), 155-169. [Hoch_2002.1]

Hoch, H., McComas, J. J., Johnson, L., Faranda, N., & Guenther, S. L. (2002). The effects of magnitude and quality of reinforcement on choice responding during play activities. *Journal of Applied Behavior Analysis, 35*(2), 171-181. [Hoch_2002.2.a.b.c]

Howlin, P. (1981). The results of a home-based language training programme with autistic children. *British Journal of Disorders of Communication, 16*(2), 73-88. [Howlin_1981.1]

Howlin, P., & Rutter, M. (1989). Mothers' speech to autistic children: A preliminary causal analysis. *Journal of Child Psychology and Psychiatry, 30*(6), 819-843. [Howlin_1989.1]

Hughes, V., Wolery, M. R., & Neel, R. S. (1983). Teacher verbalizations and task performance with autistic children. *Journal of Autism and Developmental Disorders, 13*(3), 305-316. [Hughes_1983.1]

Hung, D. W. (1978). Using self-stimulation as reinforcement for autistic children. *Journal of Autism and Childhood Schizophrenia, 8*(3), 355-366. [Hung_1978.1]

Hung, D. W. (1980). Training and generalization of yes and no as mands in two autistic children. *Journal of Autism and Developmental Disorders, 10*(2), 139-152. [Hung_1980.1]

Johnson, L., McComas, J., Thompson, A., & Symons, F. J. (2004). Obtained versus programmed reinforcement practical considerations in the treatment of escape-reinforced aggression. *Journal of Applied Behavior Analysis, 37*(2), 239-242. [Johnson.L_2004.1]

Johnson, M. R., Whitman, T. L., & Barloon-Noble, R. (1978). A home-based program for a preschool behaviorally disturbed child with parents as therapists. *Journal of Behavior Therapy and Experimental Psychiatry, 9*(1), 65-70. [Johnson.M_1978.1]

Kahng, S. W., Hendrickson, D. J., & Vu, C. P. (2000). Comparison of single and multiple functional communication training responses for the treatment of problem behavior. *Journal of Applied Behavior Analysis, 33*(3), 321-324. [Kahng_2000.1]

Karmali, I., Greer, R., Nuzzolo-Gomez, R., Ross, D. E., & Rivera-Valdes, C. (2005). Reducing palilalia by presenting tact corrections to young children with autism. *Analysis of Verbal Behavior, 21*, 145-153. [Karmali_2005.1]

Kay, S., Harchik, A. F., & Luiselli, J. K. (2006). Elimination of drooling by an adolescent student with autism attending public high school. *Journal of Positive Behavior Interventions, 8*(1), 24-28. [Kay_2006.1]

Keen, D., Sigafoos, J., & Woodyatt, G. (2001). Replacing prelinguistic behaviors with functional communication. *Journal of Autism and Developmental Disorders, 31*(4), 385-398. [Keen_2001.1]

Keen, D., Brannigan, K. L., & Cuskelly, M. (2007). Toilet training for children with autism: The effects of video modeling. *Journal of Developmental and Physical Disabilities, 19,* 291-303. [Keen_2007.2]

Kennedy, C. H., Meyer, K. A., Knowles, T., & Shukla, S. (2000). Analyzing the multiple functions of stereotypical behavior for students with autism: Implications for assessment and treatment. *Journal of Applied Behavior Analysis, 33*(4), 559-571. [Kennedy_2000.1]

Kern, L., & Marder, T. J. (1996). A comparison of simultaneous and delayed reinforcement as treatments for food selectivity. *Journal of Applied Behavior Analysis, 29*(2), 243-246. [Kern.Le_1996.1]

Kern, L., Carberry, N., & Haidara, C. (1997). Analysis and intervention with two topographies of challenging behavior exhibited by a young woman with autism. *Research in Developmental Disabilities, 18*(4), 275-287. [Kern.Le_1997.1]

Kern, L., Starosta, K., & Adelman, B. E. (2006). Reducing pica by teaching children to exchange inedible items for edibles. *Behavior Modification, 30*(2), 135-158. [Kern.Le_2006.1]

Kistner, J., Robbins, F., & Haskett, M. (1988). Assessment and skill remediation of hyperlexic children. *Journal of Autism and Developmental Disorders, 18*(2), 191-205. [Kistner_1988.1]

Kodak, T., Miltenberger, R. G., & Romaniuk, C. (2003). The effects of differential negative reinforcement of other behavior and noncontingent escape on compliance. *Journal of Applied Behavior Analysis, 36*(3), 379-382. [Kodak_2003.1]

Koegel, L. K., Camarata, S. M., Valdez-Menchaca, M., & Koegel, R. L. (1998). Setting generalization of question-asking by children with autism. *American Journal on Mental Retardation, 102,* 346-357. [Koegel.L_1998.1]

Koegel, L. K., Stiebel, D., & Koegel, R. L. (1998). Reducing aggression in children with autism toward infant or toddler siblings. *Journal of the Association for Persons with Severe Handicaps, 23*(2), 111-118. [Koegel.L_1998.2]

Koegel, R. L., Russo, D. C., & Rincover, A. (1977). Assessing and training teachers in the generalized use of behavior modification with autistic children. *Journal of Applied Behavior Analysis, 10*(2), 197-205. [Koegel.R_1977.2]

Koegel, R., & Schreibman, L. (1977). Teaching autistic children to respond to simultaneous multiple cues. *Journal of Experimental Child Psychology, 24*(2), 299-311. [Koegel.R_1977.3]

Koegel, R. L., Schreibman, L., Britten, K., & Laitinen, R. (1979). The effects of schedule of reinforcement on stimulus overselectivity in autistic children. *Journal of Autism and Developmental Disorders, 9*(4), 383-396. [Koegel.R_1979.1]

Koegel, R. L., O'Dell, M., & Dunlap, G. (1988). Producing speech use in nonverbal autistic children by reinforcing attempts. *Journal of Autism and Developmental Disorders, 18*(4), 525-538. [Koegel.R_1988.1]

Kuhn, S. A., Lerman, D. C., Vorndran, C. M., & Addison, L. (2006). Analysis of factors that affect responding in a two-response chain in children with developmental disabilities. *Journal of Applied Behavior Analysis. 39,* 263-280. [Kuhn_2006.1.b.c]

Lalli, J. S., Casey, S., & Kates, K. (1995). Reducing escape behavior and increasing task completion with functional communication training, extinction, and response chaining. *Journal of Applied Behavior Analysis, 28*(3), 261-268. [Lalli_1995.1]

LeBlanc, L. A., Carr, J. E., Crossett, S. E., Bennett, C. M., & Detweiler, D. D. (2005). Intensive outpatient behavioral treatment of primary urinary incontinence of children with autism. *Focus on Autism and Other Developmental Disabilities, 20*(2), 98-105. [LeBlanc.L_2005.1]

Lee, R., McComas, J. J., & Jawor, J. (2002). The effects of differential and lag reinforcement schedules on varied verbal responding by individuals with autism. *Journal of Applied Behavior Analysis, 35*(4), 391-402. [Lee.R_2002.1]

Lee, R., & Sturmey, P. (2006). The effects of lag schedules and preferred materials on variable responding in students with autism. *Journal of Autism and Developmental Disorders, 36*(3), 421-428. [Lee.R_2006.1]

Lerman, D. C., Kelley, M. E., Vorndran, C. M., Kuhn, S. A. C., & LaRue, Jr., R. H. (2007). Reinforcement magnitude and responding during treatment with differential reinforcement. *Journal of Applied Behavior Analysis, 35*(1), 29-48. [Lerman_2002.1.a.b]

Long, E. S., Hagopian, L. P., DeLeon, I. G., Marhefka, J. M., & Resau, D. (2005). Competing stimuli in the treatment of multiply controlled problem behavior hygiene routines. *Research in Developmental Disabilities, 26*, 57-69. [Long.E_2005.1]

Lucyshyn, J. M., Albin, R. W., Horner, R. H., Mann, J. C., Mann, J. A., & Wadsworth, G. (2007). Family implementation of positive behavior support for a child with autism: Longitudinal, single-case, experimental, and descriptive replication and extension. *Journal of Positive Behavior Interventions, 9*(3), 131-150. [Lucyshyn_2007.1]

Luiselli, J. K., Reisman, J., Helfen, C. S., & Pemberton, B. W. (1976). Control of self-stimulatory behavior of an autistic child through brief physical restraint. *SALT: School Applications of Learning Theory, 9*(2), 3-13. [Luiselli_1976.1]

Luiselli, J. K., Wolongevicz, J., Egan, P., Amirault, D., Sciaraffa, N., & Treml, T. (1999). The family support program: Description of a preventive, community-based behavioral intervention for children with pervasive developmental disorders. *Child & Family Behavior Therapy, 21*(1), 1-18. [Luiselli_1999.1]

Mace, A. B., Shapiro, E. S., & Mace, F. C. (1998). Effects of warning stimuli for reinforcer withdrawal and task onset on self-injury. *Journal of Applied Behavior Analysis, 31*(4), 679-682. [Mace.A_1998.1]

Maione, L., & Mirenda, P. (2006). Effects of video modeling and video feedback on peer-directed social language skills of a child with autism. *Journal of Positive Behavior Interventions, 8*(2), 106-118. [Maione_2006.1]

Mancil, G. R., Conroy, M. A., Nakao, T., & Alter, P. (2006). Functional communication training in the natural environment: A pilot investigation with a young child with autism spectrum disorder. *Education and Treatment of Children, 29*(4), 615-633. [Mancil_2006.1]

Marcus, B. A., & Vollmer, T. R. (1996). Combining noncontingent reinforcement and differential reinforcement schedules as treatment for aberrant behavior. *Journal of Applied Behavior Analysis, 29*(1), 43-51. [Marcus_1996.1.c]

Martin, C. A., Drasgow, E., Halle, J. W., & Brucker, J. M. (2005). Teaching a child with autism and severe language delays to reject: Direct and indirect effects of functional communication training. *Educational Psychology, 25*(2-3), 287-304. [Martin_2005.1]

Mason, S. A., & Newsom, C. D. (1990). The application of sensory change to reduce stereotyped behavior. *Research in Developmental Disabilities, 11*(3), 257-271. [Mason_1990.1]

Matson, J. L., Sevin, J. A., Fridley, D., & Love, S. R. (1990). Increasing spontaneous language in three autistic children. *Journal of Applied Behavior Analysis, 23*(2), 227-233. [Matson_1990.1]

McConnachie, G., & Carr, E. G. (1997). The effects of child behavior problems on the maintenance of intervention fidelity. *Behavior Modification, 21*(2), 123-158. [McConnachie_1997.1]

McDonald, M. E., & Hemmes, N. S. (2003). Increases in social initiation toward an adolescent with autism: Reciprocity effects. *Research in Developmental Disabilities, 24*(6), 453-465. [McDonald_2003.1]

McEvoy, M. A., & Brady, M. P. (1988). Contingent access to play materials as an academic motivator for autistic and behavior disordered children. *Education & Treatment of Children, 11*(1), 5-18. [McEvoy_1988.1]

McMorrow, M. J., & Foxx, R. M. (1986). Some direct and generalized effects of replacing an autistic man's echolalia with correct responses to questions. *Journal of Applied Behavior Analysis, 19*(3), 289-297. [McMorrow_1986.1.a.c]

Mechling, L. C., Gast, D. L., & Cronin, B. A. (2006). The effects of presenting high-preference items, paired with choice, via computer-based video programming on task completion of students with autism. *Focus on Autism and Other Developmental Disabilities, 21*(1), 7-13. [Mechling_2006.1]

Miguel, C. F., Carr, J. E., & Michael, J. (2002). The effects of a stimulus-stimulus pairing procedure on the vocal behavior of children diagnosed with autism. *The Analysis of Verbal Behavior, 18*, 3-13. [Miguel_2002.1]

Mildon, R. L., Moore, D. W., & Dixon, R. S. (2004). Combining noncontingent escape and functional communication training as a treatment for negatively reinforced disruptive behavior. *Journal of Positive Behavior Interventions, 6*(2), 92-102. [Mildon_2004.1]

Miranda-Linne, F., & Melin, L. (1992). Acquisition, generalization, and spontaneous use of color adjectives: A comparison of incidental teaching and traditional discrete-trial procedures for children with autism. *Research in Developmental Disabilities, 13*(3), 191-210. [Miranda-Linne_1992.1]

Moes, D. R., & Frea, W. D. (2000). Using family context to inform intervention planning for the treatment of a child with autism. *Journal of Positive Behavior Interventions, 2*(1), 40-46. [Moes_2000.1]

Moes, D. R., & Frea, W. D. (2002). Contextualized behavioral support in early intervention for children with autism and their families. *Journal of Autism and Developmental Disorders, 32*(6), 519-533. [Moes_2002.1]

Mruzek, D. W., Cohen, C., & Smith, T. (2007). Contingency contracting with students with autism spectrum disorders in a public school setting. *Journal of Developmental and Physical Disabilities, 19*, 103-114. [Mruzek_2007.1]

Mullins, J. L., & Christian, L. A. (2001). The effects of progressive relaxation training on the disruptive behavior of a boy with autism. *Research in Developmental Disabilities, 22*(6), 449-462. [Mullins.J_2001.1]

Najdowski, A. C., Wallace, M. D., Doney, J. K., & Ghezzi, P. M. (2003). Parental assessment and treatments of food selectivity in natural settings. *Journal of Applied Behavior Analysis, 36*(3), 383-386. [Najdowski_2003.1]

Naoi, N., Yokoyama, K., & Yamamoto, J. (2006). Matrix training for expressive and receptive two-word utterances in children with autism. *Japanese Journal of Special Education, 43*(6), 505-518. [Naoi_2006.1]

Naoi, N., Yokoyama, K., Yamamoto, J. (2007). Intervention for tact as reporting in children with autism. *Research in Autism Spectrum Disorders, 1*, 174-184. [Naoi_2007.1]

Neidert, P. L., Iwata, B. A., & Dozier, C. L. (2005). Treatment of multiply controlled problem behavior with procedural variations of differential reinforcement. *Exceptionality, 13*(1), 45-53. [Neidert_2005.1]

Newman, B., Tuntigian, L., Ryan, C. S., & Reinecke, D. R. (1997). Self-management of a DRO procedure by three students with autism. *Behavioral Interventions, 12,* 149-156. [Newman_1997.1]

Noell, G. H., Roane, H. S., VanDerHeyden, A. M., Whitmarsh, E. L., & Gatti, S. L. (2000). Programming for the generalization of communication to the classroom following assessment and training outside of the classroom. *School Psychology Review, 29*(3), 429-442. [Noell_2000.1]

Nuzzolo-Gomez, R., Leonard, M. A., Ortiz, E., Rivera, C. M., & Greer, R. D. (2002). Teaching children with autism to prefer books or toys over stereotypy or passivity. *Journal of Positive Behavior Interventions, 4*(2), 80-87. [Nuzzolo-Gomez_2002.1.a.b]

Ogletree, B. T., Fischer, M. A., & Sprouse, J. (1995). An innovative language treatment for a child with high-functioning autism. *Focus on Autistic Behavior, 10*(3), 1-10. [Ogletree_1995.1]

O'Neill, R. E., & Sweetland-Baker, M. (2001). Brief report: An assessment of stimulus generalization and contingency effects in functional communication training with two students with autism. *Journal of Autism and Developmental Disorders, 31*(2), 235-240. [O'Neill_2001.1]

Paisey, T. J., Fox, S., Curran, C., Hooper, K., & et al. (1991). Case study: Reinforcement control of severe aggression exhibited by a child with autism in a family home. *Behavioral Residential Treatment, 6*(4), 289-302. [Paisey_1991.1]

Partington, J. W., Sundberg, M. L., Newhouse, L., & Spengler, S. M. (1994). Overcoming an autistic child's failure to acquire a tact repertoire. *Journal of Applied Behavior Analysis, 27*(4), 733-734. [Partington_1994.1.a.b.c]

Patel, M. R., Carr, J. E., Kim, C., Robles, A., & Eastridge, D. (2000). Functional analysis of aberrant behavior maintained by automatic reinforcement: Assessments of specific sensory reinforcers. *Research in Developmental Disabilities, 21*(5), 393-407. [Patel_2000.1]

Pelios, L. V., MacDuff, G. S., & Axelrod, S. (2003). The effects of a treatment package in establishing independent academic work skills in children with autism. *Education & Treatment of Children, 26*(1), 1-21. [Pelios_2003.1]

Perez-Gonzalez, L. A., & Williams, G. (2002). Multicomponent procedure to teach conditional discriminations to children with autism. *American Journal of Mental Retardation: AJMR, 107*(4), 293-301. [Perez-Gonzalez_2002.1]

Perez-Gonzalez, L. A., & Williams, G. (2006). Comprehensive program for teaching skills to children with autism. *Psychology in Spain, 10*(1), 37-51. [Perez-Gonzalez_2006.1]

Piazza, C. C., Moes, D. R., & Fisher, W. W. (1996). Differential reinforcement of alternative behavior and demand fading in the treating fading in the treatment of escape-maintained destructive behavior. *Journal of Applied Behavior Analysis, 29*(4), 569-572. [Piazza_1996.1]

Piazza, C. C., Patel, M. R., Santana, C. M., Goh, H. L., Delia, M. D., & Lancaster, B. M. (2002). An evaluation of simultaneous and sequential presentation of preferred and nonpreferred food to treat food selectivity. *Journal of Applied Behavior Analysis, 35*(3), 259-270. [Piazza_2002.1]

Post, A. R., & Kirkpatrick, M. A. (2004). Toilet training for a young boy with pervasive developmental disorder. *Behavioral Interventions, 19*, 45-50. [Post_2004.1]

Preator, K. K., Jenson, W. R., Petersen, P., & Ashcraft, P. (1984). Overcorrection and alternative response training in the reduction of an autistic child's inappropriate touching. *School Psychology Review, 13*(1), 107-110. [Preator_1984.1]

Progar, P. R., North, S. T., Bruce, S. S., DiNovi, B. J., Nau, P. A., Eberman, E. M., et al. (2001). Putative behavioral history effects and aggression maintained by escape from therapists. *Journal of Applied Behavior Analysis, 34*(1), 69-72. [Progar_2001.1]

Rapp, J. T., Dozier, C. L., & Carr, J. E. (2001). Functional assessment and treatment of pica: A single-case experiment. *Behavioral Interventions, 16*(2), 111-125. [Rapp_2001.1]

Reed, P., Osbourne, L. A., & Corness, M. (2007). The real-world effectiveness of early teaching interventions for children with autism spectrum disorder. *Exceptional Children, 73*(4), 417-433. [Reed_2007.1]

Reinecke, D. R., Newman, B., Kurtz, A. L., Ryan, C. S., & Hemmes, N. S. (1997). Teaching deception skills in a game-play context to three adolescents with autism. *Journal of Autism and Developmental Disorders, 27*(2), 127-137. [Reinecke_1997.1]

Ricciardi, J. N., & Luiselli, J. K. (2003). Behavioral intervention to eliminate socially mediated urinary incontinence in a child with autism. *Child & Family Behavior Therapy, 25*(4), 53-63. [Ricciardi_2003.1]

Ricciardi, J. N., Luiselli, J. K., Terrill, S., & Reardon, K. (2003). Alternative response training with contingent practice as intervention for pica in a school setting. *Behavioral Interventions, 18*(3), 219-226. [Ricciardi_2003.2]

Ricciardi, J. N., Luiselli, J. K., & Camare, M. (2006). Shaping approach responses as intervention for specific phobia in a child with autism. *Journal of Applied Behavior Analysis, 39*(4), 445-448. [Ricciardi_2006.1]

Richman, D. M., Wacker, D. P., & Winborn, L. (2001). Response efficiency during functional communication training: Effects of effort on response allocation. *Journal of Applied Behavior Analysis, 34*(1), 73-76. [Richman_2001.1]

Rincover, A., & Koegel, R. L. (1977). Classroom treatment of autistic children II. Individualized instruction in a group. *Journal of Abnormal Child Psychology, 5*(2), 113-126. [Rincover_1977.1]

Rincover, A., Cook, R., Peoples, A., & Packard, D. (1979). Sensory extinction and sensory reinforcement principles for programming multiple adaptive behavior change. *Journal of Applied Behavior Analysis, 12*(2), 221-233. [Rincover_1979.1]

Rincover, A., & Newsom, C. D. (1985). The relative motivational properties of sensory and edible reinforcers in teaching autistic children. *Journal of Applied Behavior Analysis, 18*(3), 237-248. [Rincover_1985.1.a.b]

Roane, H. S., Fisher, W. W., Sgro, G. M., Falcomata, T. S., & Pabico, R. R. (200). An alternative method of thinning reinforcer delivery during differential reinforcement. *Journal of Applied Behavior Analysis, 37*(2), 213-218. [Roane_2004.1]

Rosenbaum, M. S., & Breiling, J. (1976). The development and functional control of reading-comprehension behavior. *Journal of Applied Behavior Analysis, 9*(3), 323-333. [Rosenbaum_1976.1]

Ross, D. E. (2002). Replacing faulty conversational exchanges for children with autism by establishing a functionally equivalent alternative response. *Education and Training in Mental Retardation and Developmental Disabilities, 37*(4), 343-362. [Ross_2002.1]

Ross, D. E., & Greer, R. D. (2003). Generalized imitation and the mand: Inducing first instances of speech in young children with autism. *Research in Developmental Disabilities, 24*(1), 58-74. [Ross_2003.1]

Rotholz, D. A., & Luce, S. C. (1983). Alternative reinforcement strategies for the reduction of self-stimulatory behavior in autistic youth. *Education & Treatment of Children, 6*(4), 363-377. [Rotholz_1983.1.a]

Russo, D. C., & Koegel, R. L. (1977). A method for integrating an autistic child into a normal public-school classroom. *Journal of Applied Behavior Analysis, 10*(4), 579-590. [Russo_1977.1]

Saloviita, T. (2002). Dry bed training method in the elimination of bed-wetting in two adults with autism and severe mental retardation. *Cognitive Behaviour Therapy, 31*(3), 135-140. [Saloviita_2002.1]

Sasso, G. M., Reimers,T. M., & Cooper, L. J., et al. (1992). Use of descriptive and experimental analyses to identify the functional properties of aberrant behavior in school settings. *Journal of Applied Behavior Analysis, 25,* 809-821. [Sasso_1992.1]

Schindler, H. R., & Horner, R. H. (2005). Generalized reduction of problem behavior of young children with autism: Building trans-situational interventions. *American Journal of Mental Retardation: AJMR, 110*(1), 36-47. [Schindler_2005.1]

Sherman, J., Barker, P., Lorimer, P., Swinson, R., & et al. (1988). Treatment of autistic children: Relative effectiveness of residential, outpatient and home-based interventions. *Child Psychiatry & Human Development, 19*(2), 109-125. [Sherman.J_1988.1]

Sidener, T. M., Carr, J. E., & Firth, A. M. (2005). Superimposition and withholding of edible consequences as treatment for automatically reinforced stereotypy. *Journal of Applied Behavior Analysis, 38*(1), 121-124. [Sidener_2005.1]

Sidener, T. M., Shabani, D. B., Carr, J. E., & Roland, J. P. (2006). An evaluation of strategies to maintain at practical levels. *Research in Developmental Disabilities, 27*(6), 632-644. [Sidener_2006.1]

Sigafoos, J., & Meikle, B. (1996). Functional communication training for the treatment of multiply determined challenging behavior in two boys with autism. *Behavior Modification, 20*(1), 60-84. [Sigafoos_1996.1]

Sigafoos, J. (1998). Assessing conditional use of graphic mode requesting in a young boy with autism. *Journal of Developmental and Physical Disabilities, 10*(2), 135-151. [Sigafoos_1998.1]

Sigafoos, J., & Littlewood, R. (1999). Communication intervention on the playground: A case study on teaching requesting to a young child with autism. *International Journal of Disability, Development and Education, 46*(3), 421-429. [Sigafoos_1999.1]

Smith, M. D. (1985). Managing the aggressive and self-injurious behavior of adults disabled by autism. *Journal of the Association for Persons with Severe Handicaps, 10*(4), 228-232. [Smith.MD_1985.1]

Smith, T. (1994). Improving memory to promote maintenance of treatment gains in children with autism. *Psychological Record, 44*(4), 459-473. [Smith.T_1994.1]

Soutor, T. A., Houlihan, D., & Young, A. (1994). An examination of response co-variation on the behavioral treatment of identical twin boys with multiple behavioral disorders. *Behavioral Interventions, 9*(3), 141-155. [Soutor_1994.1]

Strain, P. S., & Danko, C. D. (1995). Caregivers' encouragement of positive interaction between preschoolers with autism and their siblings. *Journal of Emotional and Behavioral Disorders, 3*(1), 2-12. [Strain_1995.1]

Sugai, G., & White, W. J. (1986). Effects of using object self-stimulation as a reinforcer on the prevocational work rates of an autistic child. *Journal of Autism and Developmental Disorders, 16*(4), 459-471. [Sugai_1986.1]

Sundberg, M. L., Endicott, K., & Eigenheer, P. (2000). Using intraverbal prompts to establish tacts for children with autism. *Analysis of Verbal Behavior, 17*, 89-104. [Sundberg_2000.1]

Sundberg, M. L., Loeb, M., Hale, L., & Eigenheer, P. (2002). Contriving establishing operations to teach mands for information. *The Analysis of Verbal Behavior, 18*, 15-29. [Sundberg_2002.1.a.b]

Sweeney-Kerwin, E. J., Carbone, V. J., O'Brien, L., Zecchin, G., & Janecky, M. N. (2007). Transferring control of the mand to the motivating operation in children with autism. *The Analysis of Verbal Behavior, 23*, 89-102. [Sweeney-Kerwin_2007.1]

Taras, M. E., Matson, J. L., & Leary, C. (1988). Training social interpersonal skills in two autistic children. *Journal of Behavior Therapy and Experimental Psychiatry, 19*(4), 275-280. [Taras_1988.1]

Tarbox, R. S., Wallace, M. D., & Williams, L. (2003). Assessment and treatment of elopement: A replication and extension. *Journal of Applied Behavior Analysis, 36*(2), 239-244. [Tarbox.R_2003.1]

Tarbox, R. S., Ghezzi, P. M., & Wilson, G. (2006). The effects of token reinforcement on attending in a young child with autism. *Behavioral Interventions, 21*(3), 155-164. [Tarbox.R_2006.1]

Taylor, B. A., Hoch, H., & Weissman, M. (2005). The analysis and treatment of vocal stereotypy in a child with autism. *Behavioral Interventions, 20*(4), 239-253. [Taylor.B_2005.1]

Taylor, S., Cipani, E., & Clardy, A. (1994). A stimulus control technique for improving the efficacy of an established toilet training program. *Journal of Behavior Therapy and Experimental Psychiatry, 25*(2), 155-160. [Taylor.S_1994.1]

Thiemann, K. S., & Goldstein, H. (2001). Social stories, written text cues, and video feedback: Effects on social communication of children with autism. *Journal of Applied Behavior Analysis, 34*(4), 425-446. [Thiemann_2001.1]

Thomas, N., & Smith, C. (2004). Developing play skills in children with autistic spectrum disorders. *Educational Psychology in Practice, 20*(3), 195-206. [Thomas_2004.1]

Van Laarhoven, T., & Van Laarhoven-Myers, T. (2006). Comparison of three video-based instructional procedures for teaching daily living skills to persons with developmental disabilities. *Education and Training in Developmental Disabilities, 41*(4), 365-381. [Van Laarhoven_2006.1]

Vaughn, B. J., Wilson, D., & Dunlap, G. (2002). Family-centered intervention to resolve problem behaviors in a fast-food restaurant. *Journal of Positive Behavior Interventions, 4*(1), 38-45. [Vaughn_2002.1]

Wacker, D. P., Steege, M. W., Northup, J., Sasso, G. M., & et al. (1990). A component analysis of functional communication training across three topographies of severe behavior problems. *Journal of Applied Behavior Analysis, 23*(4), 417-429. [Wacker_1990.1]

Weiskop, S., Matthews, J., & Richdale, A. (2001). Treatment of sleep problems in a 5-year-old boy with autism using behavioural principles. *Autism: The International Journal of Research and Practice, 5*(2), 209-221 [Weiskop_2001.1]

Weiskop, S., Richdale, A., & Matthews, J. (2005). Behavioural treatment to reduce sleep problems in children with autism or fragile X syndrome. *Developmental Medicine & Child Neurology, 47*, 94-104. [Weiskop_2005.1.a]

Wilczynski, S. M., Fusilier, I., Dubard, M., & Elliott, A. (2005). Experimental analysis of proximity as a social stimulus: Increasing on-task behavior of an adolescent with autism. *Psychology in the Schools, 42*(2), 189-196. [Wilczynski_2005.1]

Wilkinson, L. A. (2005). Supporting the inclusion of a student with asperger syndrome: A case study using conjoint behavioural consultation and self-management. *Educational Psychology in Practice, 21*(4), 307-326. [Wilkinson_2005.1]

Williams, G., Donley, C. R., & Keller, J. W. (2000). Teaching children with autism to ask questions about hidden objects. *Journal of Applied Behavior Analysis, 33*(4), 627-630. [Williams.G_2000.1]

Williams, G., Perez-Gonzalez, L. A., & Vogt, K. (2003). The role of specific consequences in the maintenance of three types of questions. *Journal of Applied Behavior Analysis, 36*(3), 285-296. [Williams.G_2003.1]

Williams, G., Perez-Gonzalez, L. A., & Queiroz, A. B. M. (2005). Using a combined blocking procedure to teach color discrimination to a child with autism. *Journal of Applied Behavior Analysis, 38*(4), 555-558. [Williams.G_2005.1]

Yamamoto, J., & Mochizuki, A. (1988). Acquisition and functional analysis of manding with autistic students. *Journal of Applied Behavior Analysis, 21*(1), 57-64. [Yamamoto_1988.1]

Yi, J. I., Christian, L., Vittimberga, G., & Lowenkron, B. (2006). Generalized negatively reinforced manding in children with autism. *The Analysis of Verbal Behavior, 22*, 21-33. [Yi_2006.1.a.b]

Zachor, D. A., Ben-Itzchak, E., Rabinovich, A. L., & Lahat, E. (2007). Change in autism core symptoms with intervention. *Research in Autism Spectrum Disorders, I*, 304-317. [Zachor_2007.1]

Zanolli, K., & Daggett, J. (1998). The effects of reinforcement rate on the spontaneous social initiations of socially withdrawn preschoolers. *Journal of Applied Behavior Analysis, 31*(1), 117-125. [Zanolli_1998.1]

Zanolli, K., Daggett, J., Ortiz, K., & Mullins, J. (1999). Using rapidly alternating multiple schedules to assess and treat aberrant behavior in natural settings. *Behavior Modification, 23*(3), 358-378. [Zanolli_1999.1]

Zarcone, J. R., Fisher, W. W., & Piazza, C. C. (1996). Analysis of free-time contingencies as positive versus negative reinforcement. *Journal of Applied Behavior Analysis, 29*(2), 247-250. [Zarcone_1996.1.a.b]

Zifferblatt, S. M., Burton, S. D., Horner, R., & White, T. (1977). Establishing generalization effects among autistic children. *Journal of Autism and Childhood Schizophrenia, 7*(4), 337-347. [Zifferblatt_1977.1]

Cognitive Behavioral Intervention Package

Bauminger, N. (2002). The facilitation of social-emotional understanding and social interaction in high-functioning children with autism: Intervention outcomes. *Journal of Autism and Developmental Disorders, 32*(4), 283-298. [Bauminger_2002.1]

Lopata, C., Thomeer, M. L., Volker, M. A., & Nida, R. E. (2006). Effectiveness of a cognitive-behavioral treatment on the social behaviors of children with asperger disorder. *Focus on Autism and Other Developmental Disabilities, 21*(4), 237-247. [Lopata_2006.1]

Sofronoff, K., Attwood, T., & Hinton, S. (2005). A randomised controlled trial of a CBT intervention for anxiety in children with asperger syndrome. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 46*(11), 1152-1160. [Sofronoff_2005.1]

Comprehensive Behavioral Treatment for Young Children

Arick, J. R., Young, H. E., Falco, R. A., Loos, L. M., Krug, D. A., Gense, M. H., et al. (2003). Designing an outcome study to monitor the progress of students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 18*(2), 75-87. [Arick_2003.1]

Bibby, P., Eikeseth, S., Martin, N. T., Mudford, O. C., & Reeves, D. (2002). Progress and outcomes for children with autism receiving parent-managed intensive interventions. *Research in Developmental Disabilities, 23*(1), 81-104. [Bibby_2002.1]

Cohen, H., Amerine-Dickens, M., & Smith, T. (2006). Early intensive behavioral treatment: Replication of the UCLA model in a community setting. *Journal of Developmental and Behavioral Pediatrics, 27*(2), 145-155. [Cohen_2006.1]

Eikeseth, S., Smith, T., Jahr, E., & Eldevik, S. (2002). Intensive behavioral treatment at school for 4- to 7-year-old children with autism: A 1-year comparison controlled study. *Behavior Modification, 26*(1), 49-68. [Eikeseth_2002.1]

Eikeseth, S., Smith, T., Jahr, E., & Eldevik, S. (2007). Outcome for children with autism who began intensive behavioral treatment between ages 4 and 7. *Behavior Modification, 31*(3), 264-278. [Eikeseth_2007.1]

Eldevik, S., Eikeseth, S., Jahr, E., & Smith, T. (2006). Effects of low-intensity behavioral treatment for children with autism and mental retardation. *Journal of Autism and Developmental Disorders, 36*(2), 211-224. [Eldevik_2006.1]

Fenske, E. C., Zalenski, S., Krantz, P. J., & McClannahan, L. E. (1985). Age at intervention and treatment outcome for autistic children in a comprehensive intervention program. *Analysis & Intervention in Developmental Disabilities, 5*(1-2), 49-58. [Fenske_1985.1]

Harris, S. L., Handleman, J. S., Kristoff, B., Bass, L., & Gordon, R. (1990). Changes in language development among autistic and peer children in segregated and integrated preschool settings. *Journal of Autism and Developmental Disorders, 20*(1), 23-31. [Harris_1990.1]

Harris, S. L., Handleman, J. S., Gordon, R., Kristoff, B., & Fuentes, F. (1991). Changes in cognitive and language functioning of preschool children with autism. *Journal of Autism and Developmental Disorders, 21*(3), 281-290. [Harris_1991.1]

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*(4), 359-383. [Howard_2005.1]

Hoyson, M., Jamieson, B., & Strain, P.S. (1984). Individualized group instruction of normally developing and autistic-like children: The LEAP curriculum model. *Journal of the Division for Early Childhood, 8*(2), 157-172. [Hoyson_1984.1]

Lovaas, O. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology, 55*(1), 3-9. [Lovaas_1987.1]

Luiselli, J. K., Cannon, B. O. M., Ellis, J. T., & Sisson, R. W. (2000). Home-based behavioral interventions for young children with autism/pervasive developmental disorder: A preliminary evaluation of outcome in relation to child age and intensity of service delivery. *Autism, 4*(4), 426-438. [Luiselli_2000.1]

Magiati, I., Charman, T., & Howlin, P. (2007). A two-year prospective follow-up study of community-based early intensive behavioural intervention and specialist nursery provision for children with autism spectrum disorders. *Journal of Child Psychology and Psychiatry, 48*(8), 803-812. [Magiati_2007.1]

McEachin, J. J., Smith, T., & Lovaas, O. (1993). Long-term outcome for children with autism who received early intensive behavioral treatment. *American Journal on Mental Retardation, 97*(4), 359-372. [McEachin_1993.1]

Reed, P., Osbourne, L. A., & Corness, M. (2007). The real-world effectiveness of early teaching interventions for children with autism spectrum disorder. *Exceptional Children, 73*(4), 417-433. [Reed_2007.1]

Sallows, G. O., & Graupner, T. D. (2005). Intensive behavioral treatment for children with autism: Four-year outcome and predictors. *American Journal of Mental Retardation: AJMR, 110*(6), 417-438. [Sallows_2005.1]

Sheinkopf, S. J., & Siegel, B. (1998). Home-based behavioral treatment of young children with autism. *Journal of Autism and Developmental Disorders, 28*(1), 15-23. [Sheinkopf_1998.1]

Smith, T., Eikeseth, S., Klevstrand, M., & Lovaas, O. (1997). Intensive behavioral treatment for preschoolers with severe mental retardations and pervasive developmental disorder. *American Journal on Mental Retardation, 102*(3), 238-249. [Smith.T_1997.1]

Smith, T., Buch, G. A., & Gamby, T. E. (2000). Parent-directed, intensive early intervention for children with pervasive developmental disorder. *Research in Developmental Disabilities, 21*(4), 297-309. [Smith.T_2000.1]

Smith, T., Groen, A. D., & Wynn, J. W. (2000). Randomized trial of intensive early intervention for children with pervasive developmental disorder. *American Journal of Mental Retardation: AJMR, 105*(4), 269-285. [Smith.T_2000.2]

Stahmer, A. C., Ingersoll, B., & Koegel, R. L. (2004). Inclusive programming for toddlers autism spectrum disorders: Outcomes from the children's toddler school. *Journal of Positive Behavior Interventions, 6*(2), 67-82. [Stahmer_2004.1]

Developmental Relationship-based Treatment

Gutstein, S. E., Burgess, A. F., & Montfort, K. (2007). Evaluation of the relationship development intervention program. *Autism, 11*, 397-411. [Gutstein_2007.1]

Mahoney, G., & Perales, F. (2003). Using relationship-focused intervention to enhance the social-emotional functioning of young children with autism spectrum disorders. *Topics in Early Childhood Special Education, 23*(2), 77-89. [Mahoney_2003.1]

Mahoney, G., & Perales, F. (2005). Relationship-focused early intervention with children with pervasive developmental disorders and other disabilities: A comparative study. *JDBP: Journal of Developmental and Behavioral Pediatrics, 26*(2), 77-85. [Mahoney_2005.1]

Rogers, S. J., & Lewis, H. (1989). An effective day treatment model for young children with pervasive developmental disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 28*(2), 207-214. [Rogers.S_1989.1]

Rogers, S. J., & DiLalla, D. L. (1991). A comparative study of the effects of a developmentally based instructional model on young children with autism and young children with other disorders of behavior and development. *Topics in Early Childhood Special Education, 11*, 29-47. [Rogers.S_1991.1]

Rogers, S. J., Hayden, D., Hepburn, S., Charlifue-Smith, R., Hall, T., & Hayes, A. (2006). Teaching young nonverbal children with autism useful speech: A pilot study of the Denver model and PROMPT interventions. *Journal of Autism and Developmental Disorders, 36*, 1007-1024. [Rogers.S_2006.1]

Solomon, R., Necheles, J., Ferch, C., & Bruckman, D. (2007). Pilot study of a parent training program for young children with autism: The play project home consultation program. *Autism, 11*(3), 205-224. [Solomon.R_2007.1]

Exercise

Celiberti, D. A., Bobo, H. E., Kelly, K. S., Harris, S. L., & et al. (1997). The differential and temporal effects of antecedent exercise on the self-stimulatory behavior of a child with autism. *Research in Developmental Disabilities, 18*(2), 139-150. [Celiberti_1997.1]

Levinson, L. J., & Reid, G. (1993). The effects of exercise intensity on the stereotypic behaviors of individuals with autism. *Adapted Physical Activity Quarterly, 10*(3), 255-268. [Levinson_1993.1]

Rosenthal-Malek, A., & Mitchell, S. (1997). Brief report: The effects of exercise on the self-stimulatory behaviors and positive responding of adolescents with autism. *Journal of Autism and Developmental Disorders, 27*(2), 193-202. [Rosenthal-Malek_1997.1]

Schleien, S. J., Heyne, L. A., & Berken, S. B. (1988). Integrating physical education to teach appropriate play skills to learners with autism: A pilot study. *Adapted Physical Activity Quarterly, 5*(3), 182-192. [Schleien_1988.1]

Exposure Package

Ellis, E. M., Ala'i-Rosales, S. S., Glenn, S. S., Rosales-Ruiz, J., & Greenspoon, J. (2006). The effects of graduated exposure, modeling, and contingent social attention on tolerance to skin care products with two children with autism. *Research in Developmental Disabilities, 27*(6), 585-598. [Ellis_2006.1.a.b]

Koegel, R. L., Openden, D., & Koegel, L. K. (2004). A systematic desensitization paradigm to treat hypersensitivity to auditory stimuli in children with autism in family contexts. *Research and Practice for Persons with Severe Disabilities, 29*(2), 122-134. [Koegel.R_2004.1]

Love, S. R., Matson, J. L., & West, D. (1990). Mothers as effective therapists for autistic children's phobias. *Journal of Applied Behavior Analysis, 23*(3), 379-385. [Love_1990.1]

Luscre, D. M., & Center, D. B. (1996). Procedures for reducing dental fear in children with autism. *Journal of Autism and Developmental Disorders, 26*(5), 547-556. [Luscre_1996.1]

Facilitated Communication

Bebko, J. M., Perry, A., & Bryson, S. (1996). Multiple method validation study of facilitated communication: II. Individual differences and subgroup results. *Journal of Autism and Developmental Disorders, 26*(1), 19-42. [Bebko_1996.1]

Braman, B. J., Brady, M. P., Linehan, S. L., & Williams, R. E. (1995). Facilitated communication for children with autism: An examination of face validity. *Behavioral Disorders, 21*(1), 110-118. [Braman_1995.1]

Eberlin, M., McConnachie, G., Ibel, S., & Volpe, L. (1993). Facilitated communication: A failure to replicate the phenomenon. *Journal of Autism and Developmental Disorders, 23*(3), 507-530. [Eberlin_1993.1]

Kerrin, R., Murdock, J., Sharpton, W., & Jones, N. (1998). Who's doing the pointing? Investigating facilitated communication in a classroom setting with students with autism. *Focus on Autism and Other Developmental Disabilities, 13*(2), 73-79. [Kerrin_1998.1]

Simpson. R., & Myles, B. (1995). Effectiveness of facilitated communication with children and youth with autism. *Journal of Autism and Developmental Disorders, 23*(1), 175-183. [Simpson.R_1995.1]

Gluten- and Casein-Free Diet

Elder, J. H., Shankar, M., Shuster, J., Theriaque, D., Burns, S., & Sherrill, L. (2006). The gluten-free, casein-free diet in autism: Results of a preliminary double blind clinical trial. *Journal of Autism and Developmental Disorders, 36*(3), 413-420.

Knivsberg, A. M., Reichelt, K. L., Hoien, T., & Nodland, M. (2002). A randomized, controlled study of dietary intervention in autistic syndromes. *Nutritional Neuroscience, 5*(4), 251-261. [Knivsberg_2002.1]

Knivsberg, A. M., Reichelt, K. L., Hoien, T., & Nodland, M. (2003). Effect of a dietary intervention on autistic behavior. *Focus on Autism and Other Developmental Disabilities, 18*(4), 247-256. [Knivsberg_2003.1]

Imitation-based Interaction

Field, T., Field, T., Sanders, C., & Nadel, J. (2001). Children with autism display more social behaviors after repeated imitation sessions. *Autism: The International Journal of Research and Practice, 5*(3), 317-323. [Field_2001.1]

Heimann, M., Laberg, K. E., & Nordoen, B. (2006). Imitative interaction increases social interest and elicited imitation in non-verbal children with autism. *Infant and Child Development, 15*(3), 297-309. [Heimann_2006.1]

Ingersoll, B., & Gergans, S. (2007). The effect of a parent-implemented imitation intervention on spontaneous imitation skills in young children with a autism. *Research in Developmental Disabilities, 28*(2), 163-175. [Ingersoll_2007.1]

Ingersoll, B., Lewis, E., & Kroman, E. (2007). Teaching the imitation and spontaneous use of descriptive gestures in young children with autism using a naturalistic behavioral intervention. *Journal of Autism and Developmental Disabilities, 37*, 1446-1456. [Ingersoll_2007.2]

Tiegerman, E., & Primavera, L. (1981). Object manipulation: an interactional strategy with autistic children. *Journal of Autism and Developmental Disorders, 11*(4), 427-438. [Tiegerman_1981.1]

Tiegerman, E., & Primavera, L. H. (1984). Imitating the autistic child: Facilitating communicative gaze behavior. *Journal of Autism and Developmental Disorders, 14*(1), 27-38. [Tiegerman_1984.1]

Initiation Training

Belchic, J. K., & Harris, S. L. (1994). The use of multiple peer exemplars to enhance the generalization of play skills to the siblings of children with autism. *Child and Family Behavior Therapy, 16*, 1-25. [Belchic_1994.1]

Brady, M., Shores, R., McEvoy, M. A., Ellis, D., & Fox, J. (1987). Increasing social interactions of severely handicapped autistic children. *Journal of Autism and Developmental Disorders, 17*, 375-390. [Brady.M_1987.1]

Gena, A. (2006). The effects of prompting and social reinforcement on establishing social interactions with peers during the inclusion of four children with autism in preschool. *International Journal of Psychology, 41*(6), 541-554. [Gena_2006.1]

Haring, T. G., & Lovinger, L. (1989). Promoting social interaction through teaching generalized play initiation responses to preschool children with autism. *Journal of the Association for Persons with Severe Handicaps, 14*(1), 58-67. [Haring_1989.1.a.b]

Oke, N. J., & Schreibman, L. (1990). Training social initiations to a high-functioning autistic child: Assessment of collateral behavior change and generalization in a case study. *Journal of Autism and Developmental Disorders, 20*(4), 479-497. [Oke_1990.1]

Solomon, M., Goodlin-Jones, B. L., & Anders, T. F. (2004). A social adjustment enhancement intervention for high functioning autism, asperger's syndrome, and pervasive developmental disorder NOS. *Journal of Autism and Developmental Disorders, 34*(6), 649-668. [Solomon.M_2004.1]

Zanolli, K., Daggett, J., & Adams, T. (1996). Teaching preschool age autistic children to make spontaneous initiations to peers using priming. *Journal of Autism and Developmental Disorders, 26*(4), 407-422. [Zanolli_1996.1]

Joint Attention Intervention

Drew, A., Baird, G., Baron-Cohen, S., Cox, A., Slonims, V., Wheelwright, S., et al. (2002). A pilot randomised control trial of a parent training intervention for pre-school children with autism: Preliminary findings and methodological challenges. *European Child & Adolescent Psychiatry, 11*(6), 266-272. [Drew_2002.1]

Jones, E. A., Carr, E. G., & Feeley, K. M. (2006). Multiple effects of joint attention intervention for children with autism. *Behavioral Modification, 30*(6), 782-834. [Jones.E_2006.1.a]

Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: A randomized controlled intervention study. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 47*(6), 611-620. [Kasari_2006.1]

Martins, M. P., & Harris, S. L. (2006). Teaching children with autism to respond to joint attention initiations. *Child & Family Behavior Therapy, 28*(1), 51-68. [Martins_2006.1]

Rocha, M. L., Schreibman, L., & Stahmer, A. C. (2007). Effectiveness of training parents to teach joint attention in children with autism. *Journal of Early Intervention, 29*(2), 154-172. [Rocha_2007.1]

Whalen, C., & Schreibman, L. (2003). Joint attention training for children with autism using behavior modification procedures. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 44*(3), 456-468. [Whalen_2003.1]

Language Training (Production)

Barrera, R. D., Lobato-Barrera, D., & Sulzer-Azaroff, B. (1980). A simultaneous treatment comparison of three expressive language training programs with a mute autistic child. *Journal of Autism and Developmental Disorders, 10*(1), 21-37. [Barrera_1980.1]

Barrera, R. D.& Sulzer-Azaroff, B. (1983). An alternating treatment comparison of oral and total communications training programs with echolalic autistic children. *Journal of Applied Behavior Analysis, 16*(4), 379-394. [Barrera_1983.1]

Bloch, J., Gersten, E., & Kornblum, S. (1980). Evaluation of a language program for young autistic children. *The Journal of Speech and Hearing Disorders, 45*(1), 76-89. [Bloch_1980.1]

Brady, D. O., & Smouse, A. D. (1978). A simultaneous comparison of three methods for language training with an autistic child: An experimental single case analysis. *Journal of Autism and Childhood Schizophrenia, 8*(3), 271-279. [Brady.D_1978.1]

Buday, E. M. (1995). The effects of signed and spoken words taught with music on sign and speech imitation by children with autism. *Journal of Music Therapy, 32*, 189-202. [Buday_1995.1]

Charlop, M. H. (1983). The effects of echolalia on acquisition and generalization of receptive labeling in autistic children. *Journal of Applied Behavior Analysis, 16*(1), 111-126. [Charlop_1983.1.a]

Foxx, R. M., Schreck, K. A., Garito, J., Smith, A., & Weisenberger, S. (2004). Replacing the echolalia of children with autism with functional use of verbal labeling. *Journal of Developmental and Physical Disabilities, 16*(4), 307-320. [Foxx_2004.1]

Fulwiler, R. L., & Fouts, R. S. (1976). Acquisition of American sign language by a noncommunicating autistic child. *Journal of Autism and Childhood Schizophrenia, 6*(1), 43-51. [Fulwiler_1976.1]

Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: A randomized controlled intervention study. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 47*(6), 611-620. [Kasari_2006.1]

Konstantareas, M., Oxman, J., & Webster, C. D. (1977). Simultaneous communication with autistic and other severely dysfunctional nonverbal children. *Journal of Communication Disorders, 10*(3), 267-282. [Konstantareas_1977.1]

Remington, B., & Clarke, S. (1983). Acquisition of expressive signing by autistic children: An evaluation of the relative effects of simultaneous communication and sign-alone training. *Journal of Applied Behavior Analysis, 16*(3), 315-327. [Remington_1983.1]

Scherer, N. J., & Olswang, L. B. (1989). Using structured discourse as a language intervention technique with autistic children. *The Journal of Speech and Hearing Disorders, 24*(3), 383-394. [Scherer_1989.1]

Seung, H. K., Ashwell, S., Elder, J. H., & Valcante, G. (2006). Verbal communication outcomes in children with autism after in-home father training. *Journal of Intellectual Disability Research: JIDR, 50*(Pt 2), 139-150. [Seung_2006.1]

Language Training (Production & Understanding)

Barrera, R. D., Lobato-Barrera, D., & Sulzer-Azaroff, B. (1980). A simultaneous treatment comparison of three expressive language training programs with a mute autistic child. *Journal of Autism and Developmental Disorders, 10*(1), 21-37. [Barrera_1980.1]

Barrera, R. D., & Sulzer-Azaroff, B. (1983). An alternating treatment comparison of oral and total communications training programs with echolalic autistic children. *Journal of Applied Behavior Analysis, 16*(4), 379-394. [Barrera_1983.1]

Brady, D. O., & Smouse, A. D. (1978). A simultaneous comparison of three methods for language training with an autistic child: An experimental single case analysis. *Journal of Autism and Childhood Schizophrenia, 8*(3), 271-279. [Brady.D_1978.1]

Chin, H. Y., & Bernard-Opitz, V. (2000). Teaching conversational skills to children with autism: Effect on the development of a theory of mind. *Journal of Autism and Developmental Disorders, 30*(6), 569-583. [Chin_2000.1]

Egel, A. L., Shafer, M. S., & Neef, N. A. (1984). Receptive acquisition and generalization of prepositional responding in autistic children: A comparison of two procedures. *Analysis and Intervention in Developmental Disabilities, 4*, 285-298. [Egel_1984.1]

Krantz, P. J., Zalenski, S., Hall, L. J., Fenske, E., & McClannahan, L. E. (1981). Teaching complex language to autistic children. *Analysis & Intervention in Developmental Disabilities, 1*(3-4), 259-297. [Krantz_1981.1.b.c]

Layton, T. L. (1988). Language training with autistic children using four different modes of presentation. *Journal of Communication Disorders, 21*(4), 333-350. [Layton_1988.1]

Massage/Touch Therapy

Escalona, A., Field, T., Singer-Strunck, R., Cullen, C., & Hartshorn, K. (2001). Brief report: Improvements in the behavior of children with autism following massage therapy. *Journal of Autism and Developmental Disorders, 31*(5), 513-516. [Escalona_2001.1]

Field, T., Lasko, D., Mundy, P., Henteleff, T., Kabat, S., Talpins, S., et al. (1997). Brief report: Autistic children's attentiveness and responsivity improve after touch therapy. *Journal of Autism and Developmental Disorders, 27*(3), 333-338. [Field_1997.1]

Modeling

Alcantara, P.R. (1994). Effects of videotape instructional package on purchasing skills of children with autism. *Exceptional Children, 61*(1), 40-55. [Alcantara_1994.1]

Apple, A. L., Billingsley, F., & Schwartz, I. S. (2005). Effects of video modeling alone and with self-management on compliment-giving behaviors of children with high-functioning ASD. *Journal of Positive Behavior Interventions, 7*(1), 33-46. [Apple_2005.1.a.b]

Bell, K. S., & Kirby, J. R. (2002). Teaching emotion and belief as mindreading instruction for children with autism. *Developmental Disabilities Bulletin, 30*(1), 16-50. [Bell_2002.1]

Bellini, S., Akullian, J., & Hopf, A. (2007). Increasing social engagement in young children with autism spectrum disorders using video self- modeling. *School Psychology Review, 36*(1), 80-90. [Bellini_2007.1]

Blew, P. A., Schwartz, I. S., & Luce, S. C. (1985). Teaching functional community skills to autistic children using nonhandicapped peer tutors. *Journal of Applied Behavior Analysis, 18*(4), 337-342. [Blew_1985.1]

Buffington, D. M., Krantz, P. J., McClannahan, L. E., & Poulson, C. L. (1998). Procedures for teaching appropriate gestural communication skills to children with autism. *Journal of Autism and Developmental Disorders, 28*(6), 535-545. [Buffington_1998.1]

Buggey, T., Toombs, K., Gardener, P., & Cervetti, M. (1999). Training responding behaviors in students with autism: Using videotaped self-modeling. *Journal of Positive Behavior Interventions, 1*(4), 205-214. [Buggey_1999.1]

Buggey, T. (2005). Video self-modeling applications with students with autism spectrum disorder in a small private school setting. *Focus on Autism and Other Developmental Disabilities, 20*(1), 52-63. [Buggey_2005.1.a.b.c]

Carr, E. G., & Darcy, M. (1990). Setting generality of peer modeling in children with autism. *Journal of Autism and Developmental Disorders, 20*(1), 45-59. [Carr.E_1990.1]

Charlop, M. H., Schreibman, L., & Tryon, A. S. (1983). Learning through observation: The effects of peer modeling on acquisition and generalization in autistic children. *Journal of Abnormal Child Psychology, 11*(3), 355-366. [Charlop_1983.2]

Charlop, M. H., & Walsh, M. E. (1986). Increasing autistic children's spontaneous verbalization of affection: An assessment of time delay and peer modeling procedures. *Journal of Applied Behavior Analysis, 19,* 307-314. [Charlop_1986.2]

Charlop, M. H., & Milstein, J. P. (1989). Teaching autistic children conversational speech using video modeling. *Journal of Applied Behavior Analysis, 22*(3), 275-285. [Charlop_1989.1]

Charlop-Christy, M. H., Le, L., & Freeman, K. A. (2000). A comparison of video modeling with in vivo modeling for teaching children with autism. *Journal of Autism and Developmental Disorders, 30*(6), 537-552. [Charlop-Christy_2000.2]

Charlop-Christy, M. H. & Daneshvar, S. (2003). Using video modeling to teach perspective taking to children with autism. *Journal of Positive Behavioral Interventions, 5*(1), 12-21. [Charlop-Christy_2003.2]

Coyle, C., & Cole, P. (2004). A videotaped self-modelling and self-monitoring treatment program to decrease off-task behaviour in children with autism. *Journal of Intellectual & Developmental Disability, 29*(1), 3-15. [Coyle_2004.1.a.b.c]

D'Ateno, P., Mangiapanello, K., & Taylor, B. A. (2003). Using video modeling to teach complex play sequences to a preschooler with autism. *Journal of Positive Behavior Interventions, 5*(1), 5-11. [D'Ateno_2003.1]

Egel, A. L. (1981). Reinforcer variation: Implications for motivating developmentally disabled children. *Journal of Applied Behavior Analysis,14*(3), 345-350. [Egel_1981.1]

Gena, A., Krantz, P. J., McClannahan, L. E., & Poulson, C. L. (1996). Training and generalization of affective behavior displayed by youth with autism. *Journal of Applied Behavior Analysis, 29*(3), 291-304. [Gena_1996.1]

Gena, A., Couloura, S., & Kymissis, E. (2005). Modifying the affective behavior of preschoolers with autism using in-vivo or video modeling and reinforcement contingencies. *Journal of Autism and Developmental Disorders, 35*(5), 545-556. [Gena_2005.1]

Haring, T. G., Kennedy, C. H., Adams, M. J., & Pitts-Conway, V. (1987). Teaching generalization of purchasing skills across community settings to autistic youth using videotape modeling. *Journal of Applied Behavior Analysis, 20*(1), 89-96. [Haring_1987.1]

Hine, J. F., & Wolery, M. (2006). Using point-of-view video modeling to teach play to preschoolers with autism. *Topics in Early Childhood Special Education, 26*(2), 83-93. [Hine_2006.1]

Ihrig, K., & Wolchick, S. A. (1988). Peer versus adult models and autistic children's learning: Acquisition, generalization, and maintenance. *Journal of Autism and Developmental Disorders, 18*, 67-79. [Ihrig_1988.1]

Jahr, E., Eldevik, S., & Eikeseth, S. (2000). Teaching children with autism to initiate and sustain cooperative play. *Research in Developmental Disabilities, 21*(2), 151-169. [Jahr_2000.1]

Jahr, E. (2001). Teaching children with autism to answer novel wh-questions by utilizing a multiple exemplar strategy. *Research in Developmental Disabilities, 22*(5), 407-423. [Jahr_2001.1]

Jones, C. D., & Schwartz, I. S. (2004). Siblings, peers, and adults: differential effects of models for children with autism. *Topics in Early Childhood Special Education, 24*(4), 187-198. [Jones.C_2004.1]

Keen, D., Brannigan, K. L., & Cuskelly, M. (2007). Toilet training for children with autism: The effects of video modeling. *Journal of Developmental and Physical Disabilities, 19,* 291-303. [Keen_2007.2]

Krantz, P. J., Zalenski, S., Hall, L.J., Fenske, E., & McClannahan, L. E. (1981). Teaching complex language to autistic children. *Analysis & Intervention in Developmental Disabilities, 1*(3-4), 259-297. [Krantz_1981.1.a]

Krantz, P. J., & McClannahan, L. E. (1998). Social interaction skills for children with autism: A script-fading procedure for beginning readers. *Journal of Applied Behavior Analysis, 31*(2), 191-202. [Krantz_1998.1]

Lanquetot, R. (1989). The effectiveness of peer modeling with autistic children. *Journal of the Multihandicapped Person, 2*(1), 25-34. [Lanquetot_1989.1]

Lasater, M. W., & Brady, M. P. (1995). Effects of video self-modeling and feedback on task fluency: A home-based intervention. *Education & Treatment of Children, 18*(4), 389-407. [Lasater_1995.1]

LeBlanc, L. A., Coates, A. M., Daneshvar, S., Charlop-Christy, M. H., Morris, C., & Lancaster, B. M. (2003). Using video modeling and reinforcement to teach perspective-taking skills to children with autism. *Journal of Applied Behavior Analysis, 36*(2), 253-257. [LeBlanc.L_2003.1]

MacDonald, R., Clark, M., Garrigan, E., & Vangala, M. (2005). Using video modeling to teach pretend play to children with autism. *Behavioral Interventions, 20*(4), 225-238. [MacDonald_2005.1]

Maione, L., & Mirenda, P. (2006). Effects of video modeling and video feedback on peer-directed social language skills of a child with autism. *Journal of Positive Behavior Interventions, 8*(2), 106-118. [Maione_2006.1]

Matson, J. L., Taras, M. E., Sevin, J. A., Love, S. R., & Fridley, D. (1990). Teaching self-help skills to autistic and mentally retarded children. *Research in Developmental Disabilities, 11*(4), 361-378. [Matson_1990.2]

Matson, J. L., Box, M. L., & Francis, K. L. (1992). Treatment of elective mute behavior in two developmentally delayed children using modeling and contingency management. *Journal of Behavior Therapy and Experimental Psychiatry, 23*(3), 221-229. [Matson_1992.1]

McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1984). Conversational skills for autistic adolescents: Teaching assertiveness in naturalistic game settings. *Journal of Autism and Developmental Disorders, 14*(3), 319-330. [McGee_1984.1]

McMorrow, M. J., & Foxx, R. M. (1986). Some direct and generalized effects of replacing an autistic man's echolalia with correct responses to questions. *Journal of Applied Behavior Analysis, 19*(3), 289-297. [McMorrow_1986.1.b]

Murzynski, N. T., & Bourret, J. C. (2007). Combining video modeling and least-to-most prompting for establishing a response chain. *Behavioral Interventions, 22*, 147-152. [Murzynski_2007.1]

Nikopoulos, C. K., & Keenan, M. (2003). Promoting social initiation children with autism using video modeling. *Behavioral Interventions, 18*(2), 87-108. [Nikopoulos_2003.1]

Nikopoulos, C. K., & Keenan, M. (2004). Effects of video modeling on social initiations by children with autism. *Journal of Applied Behavior Analysis, 37*(1), 93-96. [Nikopoulos_2004.1]

Nikopoulos, C. K. & Keenan, M. (2007). Using video modeling to teach complex social sequences to children with autism. *Journal of Autism and Developmental Disorders, 37*(4), 678-693. [Nikopoulos_2007.1.a.b]

Reagon, K. A., Higbee, T. S., & Endicott, K. (2006). Teaching pretend play skills to a student with autism using video modeling with a sibling as model and play partner. *Education & Treatment of Children, 29*(3), 517-528. [Reagon_2006.1]

Reeve, S. A., Reeve, K. F., Townsend, D. B., & Poulson, C. L. (2007). Establishing a generalized repertoire of helping behavior in children with autism. *Journal of Applied Behavior Analysis, 40*(1), 123-136. [Reeve_2007.1]

Schreibman, L., Whalen, C., & Stahmer, A. C. (2000). The use of video priming to reduce disruptive transition behavior in children with autism. *Journal of Positive Behavior Interventions, 2*(1), 3-11. [Schreibman_2000.1]

Secan, K. E., Egel, A. L., & Tilley, C. S. (1989). Acquisition, generalization, and maintenance of question-answering skills in autistic children. *Journal of Applied Behavior Analysis, 22*(2), 181-196. [Secan_1989.1]

Sherer, M., Pierce, K. L., Paredes, S., Kisacky, K. L., Ingersoll, B., & Schreibman, L. (2001). Enhancing conversation skills in children with autism via video technology. Which is better, "self" or "other" as a model? *Behavior Modification, 25*(1), 140-158. [Sherer_2001.1]

Shipley-Benamou, R., Lutzker, J. R., & Taubman, M. (2002). Teaching daily living skills to children with autism through instructional video modeling. *Journal of Positive Behavior Interventions, 4*(3), 165-175. [Shipley-Benamou_2002.1]

Steinborn, M., & Knapp, T. J. (1982). Teaching an autistic child pedestrian skills. *Journal of Behavior Therapy and Experimental Psychiatry, 13*(4), 347-351. [Steinborn_1982.1]

Taylor, B. A., Levin, L., & Jasper, S. (1999). Increasing play-related statements in children with autism toward their siblings: Effects of video modeling. *Journal of Developmental and Physical Disabilities, 11*(3), 253-264. [Taylor.B_1999.1.a.b]

Wert, B. Y., & Neisworth, J. T. (2003). Effects of video self-modeling on spontaneous requesting in children with autism. *Journal of Positive Behavior Interventions, 5*(1), 30-34. [Wert_2003.1]

Multi-component Package

Jocelyn, L. J., Casiro, O. G., Beattie, D., Bow, J., & Kneisz, J. (1998). Treatment of children with autism: A randomized controlled trial to evaluate a caregiver-based intervention program in community day-care centers. *Journal of Developmental and Behavioral Pediatrics: JDBP, 19*(5), 326-334. [Jocelyn_1998.1]

Luiselli, J. K., Medeiros, J., Jasinowski, C., Smith, A., & et al. (1994). Behavioral medicine treatment of ruminative vomiting and associated weight loss in an adolescent with autism. *Journal of Autism and Developmental Disorders, 24*(5), 619-629. [Luiselli_1994.1]

Miller, A., & Miller, E. E. (1973). Cognitive-developmental training with elevated boards and sign language. *Journal of Autism & Childhood Schizophrenia, 3*(1), 65-85. [Miller.A_1973.1]

Richer, J. M., & Nicoll, S. (1971). The physical environment of the mentally handicapped: IV. A playroom for autistic children, and its companion therapy project: A synthesis of ideas from ethology, psychology, nursing and design. *British Journal of Mental Subnormality, 17*(33), 132-143. [Richer_1971.1]

Rogers, S. J., Hayden, D., Hepburn, S., Charlifue-Smith, R., Hall, T., & Hayes, A. (2006). Teaching young nonverbal children with autism useful speech: A pilot study of the denver model and PROMPT interventions. *Journal of Autism and Developmental Disorders, 36*, 1007-1024. [Rogers.S_2006.1]

Rutter, M., & Bartak, L. (1973). Special educational treatment of autistic children: A comparative study: II. Follow-up findings and implications for services. *Journal of Child Psychology and Psychiatry, 14*(4), 241-270. [Rutter_1973.1]

Short, A. B. (1984). Short-term treatment outcome using parents as co-therapists for their own autistic children. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 25*(3), 443-458. [Short_1984.1]

Sofronoff, K., Leslie, A., & Brown, W. (2004). Parent management training and asperger syndrome: A randomized controlled trial to evaluate a parent based intervention. *Autism: The International Journal of Research and Practice, 8*(3), 301-317. [Sofronoff_2004.1]

Zachor, D. A., Ben-Itzchak, E., Rabinovich, A. L., & Lahat, E. (2007). Change in autism core symptoms with intervention. *Research in Autism Spectrum Disorders, I*, 304-317. [Zachor_2007.1]

Zappella, M., Chiarucci, P., Pinassi, D., Fidanzi, P., & et al. (1991). Parental bonding in the treatment of autistic behavior. *Ethology & Sociobiology, 12*(1), 1-11. [Zapella_1991.1]

Music Therapy

Edgerton, C. L. (1994). The effect of improvisational music therapy on the communicative behaviors of autistic children. *Journal of Music Therapy, 31*, 81-93. [Edgerton_1994.1]

Gunter, P., & et al. (1984). The reduction of aberrant vocalizations with auditory feedback and resulting collateral behavior change of two autistic boys. *Behavioral Disorders, 9*(4), 254-263. [Gunter_1984.1]

Kern, P., & Aldridge, D. (2006). Using embedded music therapy interventions to support outdoor play of young children with autism in an inclusive community-based child care program. *Journal of Music Therapy, 18*(4), 270-294. [Kern.P_2006.1]

Orr, T. J., Myles, B. S., & Carlson, J. K. (1998). The impact of rhythmic entrainment on a person with autism. *Focus on Autism and Other Developmental Disabilities, 13*(3), 163-166. [Orr_1998.1]

Pasiali, V. (2004). The use of prescriptive therapeutic songs in a home-based environment to promote social skills acquisition by children with autism: Three case studies. *Music Therapy Perspectives, 22*(1), 11-20. [Pasiali_2004.1]

Wimpory, D., Chadwick, P., & Nash, S. (1995). Brief report: Musical interaction therapy for children with autism: An evaluative case study with two-year follow-up. *Journal of Autism and Developmental Disorders, 25*(5), 541-552. [Wimpory_1995.1]

Naturalistic Teaching Strategies

Charlop-Christy, M. H., & Carpenter, M. H. (2000). Modified incidental teaching sessions: A procedure for parents to increase spontaneous speech in their children with autism. *Journal of Positive Behavior Interventions, 2*(2), 98-112. [Charlop-Christy_2000.1]

Grela, B. G., & McLaughlin, K. S. (2006). Focused stimulation for a child with autism spectrum disorder: a treatment study. *Journal of Autism and Developmental Disorders, 36*(6), 753-756. [Grela_2006.1]

Hamilton, B. L., & Snell, M. E. (1993). Using the milieu approach to increase spontaneous communication book use across environments by an adolescent with autism. *AAC: Augmentative and Alternative Communication, 9*(4), 259-272. [Hamilton_1993.1]

Hancock, T. B., & Kaiser, A. P. (2002). The effects of trainer-implemented enhanced milieu teaching on the social communication of children with autism. *Topics in Early Childhood Special Education, 22*(1), 29-54. [Hancock_2002.1]

Huynen, K. B., Lutzker, J. R., Bigelow, K. M., Touchette, P. E., & Campbell, R. V. (1996). Planned activities training for mothers of children with developmental disabilities. Community generalization and follow-up. *Behavior Modification, 20*(4), 406-427. [Huynen_1996.1]

Hwang, B., & Hughes, C. (2000). Increasing early social-communicative skills of preverbal preschool children with autism through social interactive training. *Journal of the Association for Persons with Severe Handicaps, 25*, 18-28. [Hwang_2000.1]

Ingersoll, B., & Schreibman, L. (2006). Teaching reciprocal imitation skills to young children with autism using a naturalistic behavioral approach: Effects on language, pretend play, and joint attention. *Journal of Autism and Developmental Disorders, 36*(4), 487-505. [Ingersoll_2006.1]

Johnston, S., Nelson, C., Evans, J., & Palazolo, K. (2003). The use of visual supports in teaching young children with autism spectrum disorder to initiate interactions. *AAC: Augmentative and Alternative Communication, 19*(2), 86-103. [Johnston_2003.1]

Kaiser, A. P., Hancock, T. B., & Nietfeld, J. P. (2000). The effects of parent-implemented enhanced milieu teaching on the social communication of children who have autism. *Early Education and Development, 11*(4), 423-446. [Kaiser_2000.1]

Kashinath, S., Woods, J., & Goldstein, H. (2006). Enhancing generalized teaching strategy use in daily routines by caregivers of children with autism. *Journal of Speech, Language, and Hearing Research, 49*, 466-485. [Kashinath_2006.1]

Koegel, R. L., Camarata, S., Koegel, L. K., Ben-Tall, A., & Smith, A. E. (1998). Increasing speech intelligibility in children with autism. *Journal of Autism and Developmental Disorders, 28*(3), 241-251. [Koegel.R_1998.1]

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. [Koegel.R_2005.1]

Kohler, F. W., Anthony, L. J., Steighner, S. A., & Hoyson, M. (2001). Teaching social interaction skills in the integrated preschool: An examination of naturalistic tactics. *Topics in Early Childhood Special Education, 21*, 93-103. [Kohler_2001.1]

Lifter, K., Sulzer-Azaroff, B., Anderson, S. R., & Cowdery, G. E. (1993). Teaching play activities to preschool children with disabilities: The importance of developmental considerations. *Journal of Early Intervention, 17*, 139-159. [Lifter_1993.1]

Lifter, K., Ellis, J., Cannon, B., & Anderson, S. R. (2005). Developmental specificity in targeting and teaching play activities to children with pervasive developmental disorders. *Journal of Early Intervention, 27*(4), 247-267. [Lifter_2005.1]

McGee, G. G., Krantz, P. J., Mason, D., & McClannahan, L. E. (1983). A modified incidental-teaching procedure for autistic youth: Acquisition and generalization of receptive object labels. *Journal of Applied Behavior Analysis, 16*(3), 329-338. [McGee_1983.1]

McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1985). The facilitative effects of incidental teaching on preposition use by autistic children. *Journal of Applied Behavior Analysis, 18*(1), 17-31. [McGee_1985.1]

McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1986). An extension of incidental teaching procedures to reading instruction for autistic children. *Journal of Applied Behavior Analysis, 19*(2), 147-157. [McGee_1986.1]

McGee, G. G., Almeida, M. C., Sulzer-Azaroff, B., & Feldman, R. S. (1992). Promoting reciprocal interactions via peer incidental teaching. *Journal of Applied Behavior Analysis, 25*(1), 117-126. [McGee_1992.1]

McGee, G. G., & Daly, T. (2007). Incidental teaching of age-appropriate social phrases to children with autism. *Research & Practice for Persons with Severe Disabilities, 32*(2), 112-123. [McGee_2007.1]

Miranda-Linne, F., & Melin, L. (1992). Acquisition, generalization, and spontaneous use of color adjectives: A comparison of incidental teaching and traditional discrete-trial procedures for children with autism. *Research in Developmental Disabilities, 13*(3), 191-210. [Miranda-Linne_1992.1]

Ogletree, B. T. (1992). Communication intervention for a preverbal child with autism: A case study. *Focus on Autistic Behavior, 7*(1), 1-12. [Ogletree_1992.1]

Olive, M. L., de la Cruz, B., Davis, T. N., Chan, J. M., Lang, R. B., O'Reilly, M. F., & Dickson, S. M. (2007). The effects of enhanced milieu teaching and a voice output communication aid on the requesting of three children with autism. *Journal of Autism and Developmental Disabilities, 37*, 1505-1513. [Olive_2007.1]

Schepis, M. M., Reid, D. H., Fitzgerald, J. R., Faw, G. D., van den Pol, R. A., & Welty, P. A. (1982). A program for increasing manual signing by autistic and profoundly retarded youth within the daily environment. *Journal of Applied Behavior Analysis, 15*(3), 363-379. [Schepis_1982.1]

Schepis, M. M., Reid, D. H., Behrmann, M. M., & Sutton, K. A. (1998). Increasing communicative interactions of young children with autism using a voice output communication aid and naturalistic teaching. *Journal of Applied Behavior Analysis, 31*(4), 561-578. [Schepis_1998.1]

Sigafoos, J., O'Reilly, M., Ma, C. H., Edrisinha, C., Cannella, H., & Lancioni, G. E. (2006). Effects of embedded instruction versus discrete-trial training on self-injury, correct responding, and mood in a child with autism. *Journal of Intellectual & Developmental Disability, 31*(4), 196-203. [Sigafoos_2006.1]

Smith, A. E., & Camarata, S. (1999). Using teacher-implemented instruction to increase language intelligibility of children with autism. *Journal of Positive Behavior Interventions, 1*(3), 141-151. [Smith.A_1999.1]

Stahmer, A. C., & Gist, K. (2001). The effects of an accelerated parent education program on technique mastery and child outcome. *Journal of Positive Behavior Interventions, 3*(2), 75-82. [Stahmer_2001.1]

Strain, P. S., Danko, C. D., & Kohler, F. (1995). Activity engagement and social interaction development in young children with autism: An examination of "free" intervention effects. *Journal of Emotional and Behavioral Disorders, 3*(2), 108-123. [Strain_1995.3]

Wetherby, A. M., & Woods, J. J. (2006). Early social interaction project for children with autism spectrum disorders beginning in the second year of life: A preliminary study. *Topics in Early Childhood Special Education, 26*(2), 67-82. [Wetherby_2006.1]

Wong, C. S., Kasari, C., Freeman, S., & Paparella, T. (2007). The acquisition and generalization of joint attention and symbolic play skills in young children with autism. *Research & Practice for Persons with Severe Disabilities, 32*(2), 101-109. [Wong_2007.1]

Yoder, P., & Stone, W. L. (2006). Randomized comparison of two communication interventions for preschoolers with autism spectrum disorders. *Journal of Consulting and Clinical Psychology, 74*(3), 426-435. [Yoder_2006.1]

Peer Training Package

Brady, M. P., McEvoy, M. A., Wehby, J., & Ellis, D. (1987). Using peers as trainers to increase an autistic child's social interactions. *Exceptional Child, 34*(3), 213-219. [Brady.M_1987.2]

Chiang, I. T., Lee, Y., Frey, G., & McCormick, B. (2004). Testing the situationally modified social rank theory on friendship quality in male youth with high-functioning autism spectrum disorder. *Therapeutic Recreation Journal, 38*(3), 261-274. [Chiang_2004.1]

Coe, D. A., Maston, J. L., Craigie, C. J., & Gossen, M. A. (1991). Play skills of autistic children: Assessment and instruction. *Child and Family Behavior Therapy, 13*, 13-40. [Coe_1991.1]

Garrison-Harrell, L., Kamps, D., & Kravits, T. (1997). The effects of peer networks on social-communicative behaviors for students with autism. *Focus on Autism and Other Developmental Disabilities, 12*, 241-254. [Garrison-Harrell_1997.1]

Haring, T. G., & Lovinger, L. (1989). Promoting social interaction through teaching generalized play initiation responses to preschool children with autism. *Journal of the Association for Persons with Severe Handicaps, 14*(1), 58-67. [Haring_1989.1.a.]

Kalyva, E., & Avramidis, E. (2005). Improving communication between children with autism and their peers through the 'circle of friends': A small-scale intervention study. *Journal of Applied Research in Intellectual Disabilities, 18*(3), 253-261. [Kalyva_2005.1]

Kamps, D. M., Royer, J., Dugan, E., Kravitz, T., Gonzalez-Lopez, A., Garcia, J., et al. (2002). Peer training to facilitate social interaction for elementary students with autism and their peers. *Exceptional Children, 78,* 173-187. [Kamps_2002.1]

Kohler, F. W., Strain, P. S., Hoyson, M., & Jamieson, B. (1997). Merging naturalistic teaching and peer-based strategies to address the IEP objectives of preschoolers with autism: An examination of structural and child behavior outcomes. *Focus on Autism and Other Developmental Disabilities, 12*(4), 196-206. [Kohler_1997.1]

Kohler, F. W., Greteman, C., & Raschke, D. (2007). Using a buddy skills package to increase the social interactions between a preschooler with autism and her peers. *Topics in Early Childhood Education, 27*(3), 155-163. [Kohler_2007.1]

Kroeger, K. A., Schultz, J. R., & Newsom, C. (2007). A comparison of two group-delivered social skills programs for young children with autism. *Journal of Autism and Developmental Disorders, 37*, 808-817. [Kroeger_2007.1]

Laushey, K. M., & Heflin, L. J. (2000). Enhancing social skills of kindergarten children with autism through the training of multiple peers as tutors. *Journal of Autism and Developmental Disorders, 30*(3), 183-193. [Laushey_2000.1]

Lee, S., & Odom, S. L. (1996). The relationship between stereotypic behavior and peer social interaction for children with severe disabilities. *Journal of the Association for Persons with Severe Handicaps, 21*(2), 88-95. [Lee.S_1996.1]

Lee, S., Odom, S. L. & Loftin, R. (2007). Social engagement with peers and stereotypic behavior of children with autism. *Journal of Positive Behavior Interventions, 9*(2), 67-79. [Lee.S_2007.1]

Lefebvre, D., & Strain, P. S. (1989). Effects of a group contingency on the frequency of social interactions among autistic and nonhandicapped preschool children: making LRE efficacious. *Journal of Early Intervention, 13*, 329-341. [Lefebvre_1989.1]

Nelson, C., McDonnell, A. P., Johnston, S. S., Crompton, A., & Nelson, A. R. (2007). Keys to play: A strategy to increase the social interactions of young children with autism and their typically developing peers. *Education and Training in Developmental Disabilities, 42*(2), 165-181. [Nelson.C_2007.1]

Nientimp, E. G., & Cole, C. L. (1992). Teaching socially valid social interaction responses to students with severe disabilities in an integrated school setting. *Journal of School Psychology, 30*(4), 343-354. [Nientimp_1992.1]

Odom, S. L., & Strain, P. S. (1986). A comparison of peer-initiation and teacher-antecedent interventions for promoting reciprocal social interaction of autistic preschoolers. *Journal of Applied Behavior Analysis, 19*(1), 59-71. [Odom_1986.1]

Odom, S. L., & Watts, E. (1991). Reducing teacher prompts in peer-mediated interventions for young children with autism. *Journal of Special Education, 25*(1), 26-43. [Odom_1991.1]

Oke, N. J., & Schreibman, L. (1990). Training social initiations to a high-functioning autistic child: Assessment of collateral behavior change and generalization in a case study. *Journal of Autism and Developmental Disorders, 20*(4), 479-497. [Oke_1990.1]

Ragland, E. U., Kerr, M. M., & Strain, P. S. (1978). Behavior of withdrawn autistic children: Effects of peer social initiations. *Behavior Modification, 2*(4), 565-578. [Ragland_1978.1]

Roeyers, H. (1996). The influence of nonhandicapped peers on the social interactions of children with a pervasive developmental disorder. *Journal of Autism and Developmental Disorders, 26*(3), 303-320. [Roeyers_1996.1]

Sainato, D. M., Strain, P. S., Lefebvre, D., & Rapp, N. (1987). Facilitating transition times with handicapped preschool children: A comparison between peer-mediated and antecedent prompt procedures. *Journal of Applied Behavior Analysis, 20*(3), 285-291. [Sainato_1987.1]

Sainato, D. M., Goldstein, H., & Strain, P. S. (1992). Effects of self-evaluation on preschool children's use of social interaction strategies with their classmates with autism. *Journal of Applied Behavior Analysis, 25*(1), 127-141. [Sainato_1992.1]

Sasso, G. M., Mundschenk, N. A., Melloy, K. J., & & Casey, S. D. (1998). A comparison of the effects of organismic and setting variables on the social interaction behavior of children with developmental disabilities and autism. *Focus on Autism and Other Developmental Disabilities, 13*(1), 2-16. [Sasso_1998.1.b]

Schreibman, L., O'Neill, R. E., & Koegel, R. L. (1983). Behavioral training for siblings of autistic children. *Journal of Applied Behavior Analysis, 16*(2), 129-138. [Schreibman_1983.1]

Shafer, M. S., Egel, A. L., & Neef, N. A. (1984). Training mildly handicapped peers to facilitate changes in the social interaction skills of autistic children. *Journal of Applied Behavior Analysis, 17*(4), 461-476. [Shafer_1984.1]

Smith, T., Lovaas, N. W., & Lovaas, O. (2002). Behaviors of children with high-functioning autism when paired with typically developing versus delayed peers: A preliminary study. *Behavioral Interventions, 17*(3), 129-143. [Smith.T_2002.1]

Strain, P. S., Kerr, M. M., & Ragland, E. U. (1979). Effects of peer-mediated social initiations and prompting/reinforcement procedures on the social behavior of autistic children. *Journal of Autism and Developmental Disorders, 9*(1), 41-54. [Strain_1979.1]

Thiemann, K. S., & Goldstein, H. (2004). Effects of peer training and written text cueing on social communication of school-age children with pervasive developmental disorder. *Journal of Speech, Language, and Hearing Research: JSLHR, 47*(1), 126-144. [Thiemann_2004.1]

Tsao, L., & Odom, S. L. (2006). Sibling-mediated social interaction intervention for young children with autism. *Topics in Early Childhood Special Education, 26*(2), 106-123. [Tsao_2006.1]

Wolfberg, P. J., & Schuler, A. L. (1993). Integrated play groups: A model for promoting the social and cognitive dimensions of play in children with autism. *Journal of Autism and Developmental Disorders, 23*(3), 467-489. [Wolfberg_1993.1]

Yang, T. R., Wolfberg, P. J., Wu, S. C., & Hwu, P. Y. (2003). Supporting children on the autism spectrum in peer play at home and school: Piloting the integrated play groups model in Taiwan. *Autism: The International Journal of Research and Practice, 7*(4), 437-453. [Yang_2003.1]

Zercher, C., Hunt, P., Schuler, A., & Webster, J. (2001). Increasing joint attention, play and language through peer supported play. *Autism: The International Journal of Research and Practice, 5*(4), 374-398. [Zercher_2001.1]

Peer-mediated Instructional Arrangement

Blew, P. A., Schwartz, I. S., & Luce, S. C. (1985). Teaching functional community skills to autistic children using nonhandicapped peer tutors. *Journal of Applied Behavior Analysis, 18*(4), 337-342. [Blew_1985.1]

Chung, K. M., Reavis, M., Mosconi, M., Drewry, J., Matthews, T., & Tasse, M. J. (2007). Peer-mediated social skills training program for young children with high-functioning autism. *Research in Developmental Disabilities, 28*, 426-436. [Chung_2007.1]

Dugan, E., Kamps, D., Leonard, B., Watkins, N., & et al. (1995). Effects of cooperative learning groups during social studies for students with autism and fourth-grade peers. *Journal of Applied Behavior Analysis, 28*(2), 175-188. [Dugan_1995.1]

Egel, A. L., Richman, G. S., & Koegel, R. L. (1981). Normal peer models and autistic children's learning. *Journal of Applied Behavior Analysis, 14*(1), 3-12. [Egel_1981.2]

Haring, T. G., & Breen, C. G. (1992). A peer-mediated social network intervention to enhance the social integration of persons with moderate and severe disabilities. *Journal of Applied Behavior Analysis, 25*(2), 319-333. [Haring_1992.1]

Kamps, D. M., Barbetta, P. M., Leonard, B. R., & Delquadri, J. (1994). Classwide peer tutoring: An integration strategy to improve reading skills and promote peer interactions among students with autism and general education peers. *Journal of Applied Behavior Analysis, 27*(1), 49-61. [Kamps_1994.1]

Kamps, D. M., Leonard, B., Potucek, J., & Garrison-Harrell, L. (1995). Cooperative ;earning groups in reading: An integration strategy for students with autism and general classroom peers. *Behavioral Disorders, 21*(1), 89-109. [Kamps_1995.1.a.b]

Kamps, D. M., Dugan, E., Potucek, J., & Collins, A. (1999). Effects of cross-age peer tutoring networks among students with autism and general education students. *Journal of Behavioral Education, 9*(2), 97-115. [Kamps_1999.1.a.b]

Petursdottir, A. L., McComas, J., & McNaster, K. (2007). The effects of scripted peer tutoring and programming common stimuli on social interactions of a students with autism spectrum disorder. *Journal of Applied Behavior Analysis, 40*(2), 353-357. [Petursdottir_2007.1]

Ward, P., & Ayvazo, S. (2006). Classwide peer tutoring in physical education: Assessing its effects with kindergartners with autism. *Adapted Physical Activity Quarterly, 23*, 233-244. [Ward.P_2006.1]

Picture Exchange Communication System (PECS)

Bondy, A. S., & Frost, L. A. (1994). The picture exchange communication system. *Focus on Autistic Behavior, 9*(3), 1-19. [Bondy_1994.1]

Carr, D., & Felce, J. (2007). The effects of PECS teaching to phase III on the communicative interactions between children with autism and their teachers. *Journal of Autism and Developmental Disorders, 37*(4), 724-737. [Carr.D_2007.1]

Charlop-Christy, M. H., Carpenter, M., Le, L., LeBlanc, L. A., & Kellet, K. (2002). Using the picture exchange communication system (PECS) with children with autism: Assessment of PECS acquisition, speech, social-communicative behavior, and problem behavior. *Journal of Applied Behavior Analysis, 35*(3), 213-231. [Charlop-Christy_2002.1]

Ganz, J. B., & Simpson, R. L. (2004). Effects on communicative requesting and speech development of the picture exchange communication system in children with characteristics of autism. *Journal of Autism and Developmental Disorders, 34*(4), 395-409. [Ganz_2004.1]

Howlin, P., Gordon, R. K., Pasco, G., Wade, A., & Charman, T. (2007). The effectiveness of picture exchange communication system (PECS) training for teachers of children with autism: A pragmatic, group randomized controlled trial. *Journal of Child Psychology and Psychiatry, 48*(5), 473-481. [Howlin_2007.1]

Kravits, T. R., Kamps, D. M., Kemmerer, K., & Potucek, J. (2002). Brief report: Increasing communication skills for an elementary-aged student with autism using the picture exchange communication system. *Journal of Autism and Developmental Disorders, 32*(3), 225-230. [Kravits_2002.1]

Magiati, I., & Howlin, P. (2003). A pilot evaluation study of the picture exchange communication system (PECS) for children with autistic spectrum disorders. *Autism, 7*(3), 297-320. [Magiati_2003.1]

Marckel, J. M., Neef, N. A., & Ferreri, S. J. (2006). A preliminary analysis of teaching improvisation with the picture exchange communication system to children with autism. *Journal of Applied Behavior Analysis, 39*(1), 109-115. [Marckel_2006.1]

Tincani, M. (2004). Comparing the picture exchange communication system and sign language training for children with autism. *Focus on Autism and Other Developmental Disabilities, 19*(3), 152-163. [Tincani_2004.1]

Tincani, M., Crozier, S., & Alazetta, L. (2006). The picture exchange communication system: Effects on manding and speech development for school-aged children with autism. *Education and Training in Developmental Disabilities, 41*(2), 177-184. [Tincani_2006.1.a.b]

Yoder, P., & Stone, W. L. (2006). Randomized comparison of two communication interventions for preschoolers with autism spectrum disorders. *Journal of Consulting and Clinical Psychology, 74*(3), 426-435. [Yoder_2006.1]

Yoder, P., & Stone, W. L. (2006). A randomized comparison of the effect of two pre linguistic communication interventions on the acquisition of spoken communication in preschoolers with ASD. *Journal of Speech & Hearing Research, 49*(4), 698-711. [Yoder_2006.2]

Yokoyama, K., Naoi, N., & Yamamoto, J. (2006). Teaching verbal behavior using the picture exchange communication system (PECS) with children with autistic spectrum disorders. *Japanese Journal of Special Education, 43*(6), 485-503. [Yokoyama_2006.1]

Pivotal Response Treatment

Baker-Ericzen, M. J., Stahmer, A. C., & Burns, A. (2007). Child demographics associated with outcomes in a community-based pivotal response training program. *Journal of Positive Behavior Interventions, 9*(1), 52-60. [Baker-Ericzen_2007.1]

Gillett, J. N., & LeBlanc, L. A. (2007). Parent-implemented natural language paradigm to increase language and play in children with autism. *Research in Autism Spectrum Disorders, 1*, 247-255. [Gillett_2007.1]

Harper, C. B., Symon, J. B. G., & Frea, W. D. (2008). Recess is time-in: Using peers to improve social skills of children with autism. *Journal of Autism and Developmental Disorders, 38*, 815-826. [Harper_2008.1]

Koegel, R. L., & Frea, W. D. (1993). Treatment of social behavior in autism through the modification of pivotal social skills. *Journal of Applied Behavior Analysis, 26*(3), 369-377. [Koegel.R_1993.1]

Koegel, R. L., O'Dell, M. C., & Koegel, L. K. (1987). A natural language teaching paradigm for nonverbal autistic children. *Journal of Autism and Developmental Disorders, 17*(2), 187-200. [Koegel.R_1987.2]

Koegel, R. L., Koegel, L. K., & Surratt, A. (1992). Language intervention and disruptive behavior in preschool children with autism. *Journal of Autism and Developmental Disorders, 22*(2), 141-153. [Koegel.R_1992.1]

Koegel, R. L., Symon, J. B., & Kern Koegel, L. (2002). Parent education for families of children with autism living in geographically distant areas. *Journal of Positive Behavior Interventions, 4*(2), 88-103. [Koegel.R_2002.1]

Koegel, L. K., Carter, C. M., & Koegel, R. L. (2003). Teaching children with autism self-initiations as a pivotal response. *Topics in Language Disorders, 23*(2), 134-145. [Koegel.L_2003.2]

Laski, K. E., Charlop, M. H., & Schreibman, L. (1988). Training parents to use the natural language paradigm to increase their autistic children's speech. *Journal of Applied Behavior Analysis, 21*(4), 391-400. [Laski_1988.1]

Pierce, K., & Schreibman, L. (1995). Increasing complex social behaviors in children with autism: Effects of peer-implemented pivotal response training. *Journal of Applied Behavior Analysis, 28*(3), 285-295. [Pierce_1995.1]

Pierce, K., & Schreibman, L. (1997). Multiple peer use of pivotal response training to increase social behaviors of classmates with autism: Results from trained and untrained peers. *Journal of Applied Behavior Analysis, 30*(1), 157-160. [Pierce_1997.1]

Stahmer, A. C. (1995). Teaching symbolic play skills to children with autism using pivotal response training. *Journal of Autism and Developmental Disorders, 25*(2), 123-141. [Stahmer_1995.1]

Thorp, D. M., Stahmer, A. C., & Schreibman, L. (1995). Effects of sociodramatic play training on children with autism. *Journal of Autism and Developmental Disorders, 25*(3), 265-282. [Thorp_1995.1]

Vismara, L. A., & Lyons, G. L. (2007). Using perseverative interests to elicit joint attention behaviors in young children with autism: Theoretical and clinical implications for understanding motivation. *Journal of Positive Behavior Interventions, 9*(4), 214-228. [Vismara_2007.1]

Reductive Package

Aiken, J. M., & Salzberg, C. L. (1984). The effects of a sensory extinction procedure on stereotypic sounds of two autistic children. *Journal of Autism and Developmental Disorders, 14*(3), 291-299. [Aiken_1984.1]

Bailey, S. L., Pokrzywinski, J., & Bryant, L. E. (1983). Using water mist to reduce self-injurious and stereotypic behavior. *Applied Research in Mental Retardation, 4*(3), 229-241. [Bailey_1983.1]

Charlop, M. H., Burgio, L. D., Iwata, B. A., & Ivancic, M. T. (1988). Stimulus variation as a means of enhancing punishment effects. *Journal of Applied Behavior Analysis, 21*(1), 89-95. [Charlop_1988.1]

Doleys, D. M., Wells, K. C., Hobbs, S. A., Roberts, M. W., & Cartelli, L. M. (1976). The effects of social punishment on noncompliance: A comparison with timeout and positive practice. *Journal of Applied Behavior Analysis, 9*(4), 471-482. [Doleys_1976.1]

Durand, V. M., & Carr, E. G. (1992). An analysis of maintenance following functional communication training. *Journal of Applied Behavior Analysis, 25*(4), 777-794. [Durand_1992.1.c]

Ferreri, S. J., Tamm, L., & Wier, K. G. (2006). Using food aversion to decrease severe pica by a child with autism. *Behavior Modification, 30*(4), 456-471. [Ferreri_2006.1]

Foxx, R. M. (1977). Attention training: The use of overcorrection avoidance to increase the eye contact of autistic and retarded children. *Journal of Applied Behavior Analysis, 10*(3), 489-499. [Foxx_1977.1]

Freeman, B. J, Moss, D., Somerset, T., & Ritvo, E. (1977). Thumbsucking in an autistic child overcome by overcorrection. *Journal of Behavior Therapy and Experimental Psychiatry, 8*(2), 211-212. [Freeman_1977.1]

Graff, R. B., Lineman, G. T., Libby, M. E., & Ahearn, W. H. (1999). Functional analysis and treatment of screaming in a young girl with severe disabilities. *Behavioral Interventions, 14*(4), 233-239. [Graff_1999.1]

Haring, T. G., & Kennedy, C. H. (1990). Contextual control of problem behavior in students with severe disabilities. *Journal of Applied Behavior Analysis, 23*(2), 234-243. [Haring_1990.1]

Harris, S. L., & Wolchik, S. A. (1979). Suppression of self-stimulation: Three alternative strategies. *Journal of Applied Behavior Analysis, 12*(2), 185-198. [Harris_1979.1.a.b]

Jenson, W. R., Rovner, L., Cameron, S., Petersen, B. P., & Kesler, J. (1985). Reduction of self-injurious behavior in an autistic girl using a multifaceted treatment program. *Journal of Behavior Therapy and Experimental Psychiatry, 16*(1), 77-80. [Jenson_1985.1]

Johnson, M. R., Whitman, T. L., & Barloon-Noble, R. (1978). A home-based program for a

preschool behaviorally disturbed child with parents as therapists. *Journal of Behavior Therapy and Experimental Psychiatry, 9*(1), 65-70. [Johnson.M_1978.1]

Koegel, R. L., Firestone, P. B., Kramme, K. W., & Dunlap, G. (1974). Increasing spontaneous play by suppressing self-stimulation in autistic children. *Journal of Applied Behavior Analysis, 7*(4), 521-528. [Koegel.R_1974.1]

Lerman, D. C., Kelley, M. E., Vorndran, C. M., & Van Camp, C. M. (2003). Collateral effects of response blocking during the treatment of stereotypic behavior. *Journal of Applied Behavior Analysis, 36*(1), 119-123. [Lerman_2003.1]

Luiselli, J. K., Reisman, J., Helfen, C. S., & Pemberton, B. W. (1976). Control of self-stimulatory behavior of an autistic child through brief physical restraint. *SALT: School Applications of Learning Theory, 9*(2), 3-13. [Luiselli_1976.1]

Luiselli, J. K., Suskin, L., & McPhee, D. F. (1981). Continuous and intermittent application of overcorrection in a self-injurious autistic child: Alternating treatments design analysis. *Journal of Behavior Therapy and Experimental Psychiatry, 12*(4), 355-358. [Luiselli_1981.1]

Luiselli, J. K., Kane, A., Treml, T., & Young, N. (2000). Behavioral intervention to reduce physical restraint of adolescents with developmental disabilities. *Behavioral Interventions, 15*, 317-330. [Luiselli_2000.2]

Maag, J. W., Wolchik, S. A., Rutherford, R. B., Jr., & Parks, B. T. (1986). Response covariation on self-stimulatory behaviors during sensory extinction procedures. *Journal of Autism and Developmental Disorders, 16*(2), 119-132. [Maag_1986.2.a.b]

Maag, J. W., Rutherford, R. B., Wolchik, S. A., & Parks, B. T. (1986). Sensory extinction and overcorrection in suppressing self-stimulation: A preliminary comparison of efficacy and generalization. *Education & Treatment of Children, 9*(3), 189-201. [Maag_1986.3]

Magnusson, A. F., & Gould, D. D. (2007). Reduction of automatically-maintained self-injury using contingent equipment removal. *Behavioral Interventions, 22*, 57-68. [Magnusson_2007.1]

Neufeld, A., & Fantuzzo, J. W. (1984). Contingent application of a protective device to treat the severe self-biting behavior of a disturbed autistic child. *Journal of Behavior Therapy and Experimental Psychiatry, 15*(1), 79-83. [Neufeld_1984.1]

Powers, M. D., & Crowel, R. L. (1985). The educative effects of positive practice overcorrection: Acquisition, generalization, and maintenance. *School Psychology Review, 14*(3), 360-372. [Powers_1985.1]

Rapp, J. T., Dozier, C. L., Carr, J. E., Patel, M. R., & Enloe, K. A. (2000). Functional analysis of hair manipulation: A replication and extension. *Behavioral Interventions, 15*(2), 121-133. [Rapp_2000.1]

Rapp, J. T. (2006). Toward an empirical method for identifying matched stimulation for automatically reinforced behavior: A preliminary investigation. *Journal of Applied Behavior Analysis, 39*(1), 137-140. [Rapp_2006.1]

Smith, D. E. (1981). Is isolation room time-out a punisher? *Behavioral Disorders, 6*(4), 247-256. [Smith.D_1981.1]

Solnick, J. V., Rincover, A., & Peterson, C. R. (1977). Some determinants of the reinforcing and punishing effects of timeout. *Journal of Applied Behavior Analysis, 10*(3), 415-424. [Solnick_1977.1.a]

Steeves, J. M., Martin, G. L., & Pear, J. J. (1970). Self-imposed time-out by autistic children during an operant training program. *Behavior Therapy, 1*(3), 371-381. [Steeves_1970.1]

Tanner, B. A., & Zeiler, M. (1975). Punishment of self-injurious behavior using aromatic ammonia as the aversive stimulus. *Journal of Applied Behavior Analysis, 8*(1), 53-57. [Tanner_1975.1]

Tarbox, J., Wallace, M. D., & Tarbox, R. S. (2002). Successful generalized parent training and failed schedule thinning of response blocking for automatically maintained object mouthing. *Behavioral Interventions, 17*(3), 169-178. [Tarbox.J_2002.1]

Van Houten, R., & Rolider, A. (1988). Recreating the scene: an effective way to provide delayed punishment for inappropriate motor behavior. *Journal of Applied Behavior Analysis, 21*(2), 187-192. [Van Houten_1988.1]

Woods, T. S. (1982). Reducing severe aggressive and self-injurious behavior: A nonintrusive, home based approach. *Behavioral Disorders, 7*(3), 180-188. [Woods_1982.1]

Woods, T. S. (1983). The selective suppression of a stereotypy in an autistic child: A stimulus control approach. *Behavioural Psychotherapy, 11*(3), 235-248. [Woods_1983.1]

Schedules

Arntzen, E., Gilde, K., & Pedersen, E. (1998). Generalized schedule following in a youth with autism. *Scandinavian Journal of Behaviour Therapy, 27*(3), 135-141. [Arntzen_1998.1]

Bryan, L. C., & Gast, D. L. (2000). Teaching on-task and on-schedule behaviors to high-functioning children with autism via picture activity schedules. *Journal of Autism and Developmental Disorders, 30*(6), 553-567. [Bryan_2000.1]

Dettmer, S., Simpson, R. L., Myles, B. S., & Ganz, J. B. (2000). The use of visual supports to facilitate transitions of students with autism. *Focus on Autism and Other Developmental Disabilities, 15*(3), 163-169. [Dettmer_2000.1]

Dooley, P., Wilczenski, F. L., & Torem, C. (2001). Using an activity schedule to smooth school transitions. *Journal of Positive Behavior Interventions, 3*(1), 57-61. [Dooley_2001.1]

Hall, L. J., McClannahan, L. E., & Krantz, P. J. (1995). Promoting independence in integrated classrooms by teaching aides to use activity schedules and decreased prompts. *Education & Training in Mental Retardation & Developmental Disabilities, 30*(3), 208-217. [Hall_1995.1]

Hume, K., & Odom, S. (2007). Effects of an individual work system on the independent functioning of students with autism. *Journal of Autism and Developmental Disabilities, 37*, 1166-1180. [Hume_2007.1]

Krantz, P. J., MacDuff, M. T., & McClannahan, L. E. (1993). Programming participation in family activities for children with autism: Parents' use of photographic activity schedules. *Journal of Applied Behavior Analysis, 26*(1), 137-138. [Krantz_1993.1]

MacDuff, G. S., Krantz, P. J., & McClannahan, L. E. (1993). Teaching children with autism to use photographic activity schedules: Maintenance and generalization of complex response chains. *Journal of Applied Behavior Analysis, 26*(1), 89-97. [MacDuff_1993.1]

Massey, N., & Wheeler, J. J. (2000). Acquisition and generalization of activity schedules and their effects on task engagement in a young child with autism in an inclusive pre-school classroom. *Education & Training in Mental Retardation & Developmental Disabilities, 35*(3), 326-335. [Massey_2000.1]

Morrison, R. S., Sainato, D. M., Benchaaban, D., & Endo, S. (2002). Increasing play skills of children with autism using activity schedules and correspondence training. *Journal of Early Intervention, 25*(1), 58-72. [Morrison.R_2002.1]

O'Reilly, M., Sigafoos, J., Lancioni, G., Edrisinha, C., & Andrews, A. (2005). An examination of the effects of a classroom activity schedule on levels of self-injury and engagement for a child with severe autism. *Journal of Autism and Developmental Disorders, 35*, 305-311. [O'Reilly_2005.1]

Schmit, J., Alper, S., Raschke, D., & Ryndak, D. (2000). Effects of using a photographic cueing package during routine school transitions with a child who has autism. *Mental Retardation, 38*(2), 131-137. [Schmit_2000.1]

Scripting

Charlop-Christy, M. H., & Kelso, S. E. (2003). Teaching children with autism conversational speech using a cue card/written script program. *Education & Treatment of Children, 26*(2), 108-127. [Charlop-Christy_2003.1]

Goldstein, H., Kaczmarek, L., Pennington, R., & Shafer, K. (1992). Peer-mediated intervention: Attending to, commenting on, and acknowledging the behavior of preschoolers with autism. *Journal of Applied Behavior Analysis, 25*(2), 289-305. [Goldstein_1992.2]

Krantz, P. J., & McClannahan, L. E. (1993). Teaching children with autism to initiate to peers: Effects of a script-fading procedure. *Journal of Applied Behavior Analysis, 26*(1), 121-132. [Krantz_1993.2]

Sarokoff, R. A., Taylor, B. A., & Poulson, C. L. (2001). Teaching children with autism to engage in conversational exchanges: Script fading with embedded textual stimuli. *Journal of Applied Behavior Analysis, 34*(1), 81-84. [Sarokoff_2001.1]

Sommer, K. S., Whitman, T. L., & Keogh, D. A. (1988). Teaching severely retarded persons to sign interactively through the use of a behavioral script. *Research in Developmental Disabilities, 9*(3), 291-304. [Sommer_1988.1]

Stevenson, C. L., Krantz, P. J., & McClannahan, L. E. (2000). Social interaction skills for children with autism: A script-fading procedure for nonreaders. *Behavioral Interventions, 15*(1), 1-20. [Stevenson_2000.1]

Self-management

Apple, A. L., Billingsley, F., & Schwartz, I. S. (2005). Effects of video modeling alone and with self-management on compliment-giving behaviors of children with high-functioning ASD. *Journal of Positive Behavior Interventions, 7*(1), 33-46. [Apple_2005.1.b]

Callahan, K., & Rademacher, J. A. (1999). Using self-management strategies to increase the on-task behavior of a student with autism. *Journal of Positive Behavior Interventions, 1*(2), 117-122. [Callahan_1999.1]

Delano, M. E. (2007). Improving written language performance of adolescents with asperger syndrome. *Journal of Applied Behavior Analysis, 40*(2), 345-351. [Delano_2007.1]

Dixon, R. S., Moore, D., Hartnett, N., Howard, R., & Petrie, K. (1995). Reducing inappropriate questioning behaviour in an adolescent with autism: A case study. *Behaviour Change, 12*(3), 163-166. [Dixon.R_1995.1]

Koegel, L. K., Koegel, R. L., Hurley, C., & Frea, W. D. (1992). Improving social skills and disruptive behavior in children with autism through self-management. *Journal of Applied Behavior Analysis, 25*(2), 341-353. [Koegel.L_1992.1]

Koegel, R. L., & Koegel, L. K. (1990). Extended reductions in stereotypic behavior of students with autism through a self-management treatment package. *Journal of Applied Behavior Analysis, 23*(1), 119-127. [Koegel.R_1990.1]

Mancina, C., Tankersley, M., Kamps, D., Kravits, T., & Parrett, J. (2000). Brief report: Reduction of inappropriate vocalizations for a child with autism using a self-management treatment program. *Journal of Autism and Developmental Disorders, 30*(6), 599-606. [Mancina_2000.1.a.b]

Mithaug, D. K., & Mithaug, D. E. (2003). Effects of teacher-directed versus student-directed instruction on self-management of young children with disabilities. *Journal of Applied Behavior Analysis, 36*(1), 133-136. [Mithaug_2003.1]

Newman, B., Buffington, D. M., O'Grady, M. A., McDonald, M. E., et al. (1995). Self-management of schedule following in three teenagers with autism. *Behavioral Disorders, 20*(3), 190-196. [Newman_1995.1]

Newman, B., Buffington, D. M., & Hemmes, N. S. (1996). Self-reinforcement used to increase the appropriate conversation of autistic teenagers. *Education & Training in Mental Retardation & Developmental Disabilities, 31*(4), 304-309. [Newman_1996.1]

Newman, B., Reinecke, D. R., & Meinberg, D. L. (2000). Self-management of varied responding in three students with autism. *Behavioral Interventions, 15*(2), 145-151. [Newman_2000.1]

Newman, B., & Ten Eyck, P. (2005). Self-management of initiations by students diagnosed with autism. *Analysis of Verbal Behavior, 21,* 117-122. [Newman_2005.1]

Pierce, K. L., & Schreibman, L. (1994). Teaching daily living skills to children with autism in unsupervised settings through pictorial self-management. *Journal of Applied Behavior Analysis, 27*(3), 471-481. [Pierce_1994.1]

Reinecke, D. R., Newman, B., & Meinberg, D. L. (1999). Self-management of sharing in three pre-schoolers with autism. *Education and Training in Mental Retardation and Developmental Disabilities, 34*(3), 312-317. [Reinecke_1999.1]

Sainato, D. M., Strain, P. S., Lefebvre, D., & Rapp, N. (1990). Effects of self-evaluation on the independent work skills of preschool children with disabilities. *Exceptional Children, 56*(6), 540-549. [Sainato_1990.1]

Shabani, D. B., Wilder, D. A., & Flood, W. A. (2001). Reducing stereotypic behavior through discrimination training, differential reinforcement of other behavior, and self-monitoring. *Behavioral Interventions, 16*, 279-286. [Shabani_2001.1]

Shearer, D. D. (1996). Promoting independent interactions between preschoolers with autism and their nondisabled peers: An analysis of self-monitoring. *Early Education and Development, 7*(3), 205-220. [Shearer_1996.1]

Stahmer, A. C., & Schreibman, L. (1992). Teaching children with autism appropriate play in unsupervised environments using a self-management treatment package. *Journal of Applied Behavior Analysis, 25*(2), 447-459. [Stahmer_1992.1]

Strain, P. S., Kohler, F. W., Storey, K., & Danko, C. D. (1994). Teaching preschoolers with autism to self-monitor their social interactions: An analysis of results in home and school settings. *Journal of Emotional and Behavioral Disorders, 2*(2), 78-88. [Strain_1994.1]

Strain, P. S., & Danko, C. D. (1995). Caregivers' encouragement of positive interaction between preschoolers with autism and their siblings. *Journal of Emotional and Behavioral Disorders, 3*(1), 2-12. [Strain_1995.1]

Todd, T., & Reid, G. (2006). Increasing physical activity in individuals with autism. *Focus on Autism and Other Developmental Disabilities, 21*(3), 167-176. [Todd_2006.1]

Sensory Integrative Package

Case-Smith, J., & Bryan, T. (1999). The effects of occupational therapy with sensory integration emphasis on preschool-age children with autism. *The American Journal of Occupational Therapy, 53*(5), 489-497. [Case-Smith_1999.1]

Fertel-Daly, D., Bedell, G., & Hinojosa, J. (2001). Effects of a weighted vest on attention to task and self-stimulatory behaviors in preschoolers with pervasive developmental disorders. *The American Journal of Occupational Therapy: Official Publication of the American Occupational Therapy Association, 55*(6), 629-640. [Fertel-Daly_2001.1]

Jung, K., Lee, H., Lee, Y., Cheong, S., Choi, M., Suh, D., et al. (2006). The application of a sensory integration treatment based on virtual reality-tangible interaction for children with autistic spectrum disorder. *Psychology Journal, 4*(2), 149-159. [Jung_2006.1]

Kane, A., Luiselli, J. K., Dearborn, S., & Young, N. (2004). Wearing a weighted vest as intervention for children with autism/pervasive developmental disorder: Behavioral assessment of stereotypy and attention to task. *The Scientific Review of Mental Health Practice, 3*(2), 19-24. [Kane_2004.1]

Linderman, T. M., & Stewart, K. B. (1999). Sensory integrative-based occupational therapy and functional outcomes in young children with pervasive developmental disorders: A single-subject study. *The American Journal of Occupational Therapy, 53*(2), 207-213. [Linderman_1999.1]

Reilly, C., Nelson, D. L., & Bundy, A. C. (1983). Sensorimotor versus fine motor activities in eliciting vocalizations in autistic children. *Occupational Therapy Journal of Research, 3*(4), 199-212. [Reilly_1983.1]

Zissermann, L. (1992). The effects of deep pressure on self-stimulating behaviors in a child with autism and other disabilities. *American Journal of Occupational Therapy, 46*(6), 547-551. [Zisserman_1992.1]

Sign Instruction

Barrera, R. D., Lobato-Barrera, D., & Sulzer-Azaroff, B. (1980). A simultaneous treatment comparison of three expressive language training programs with a mute autistic child. *Journal of Autism and Developmental Disorders, 10*(1), 21-37. [Barrera_1980.1]

Brady, D. O., & Smouse, A. D. (1978). A simultaneous comparison of three methods for language training with an autistic child: An experimental single case analysis. *Journal of Autism and Childhood Schizophrenia, 8*(3), 271-279. [Brady.D_1978.1]

Carr, E. G., Binkoff, J. A., Kologinsky, E., & Eddy, M. (1978). Acquisition of sign language by autistic children. I: Expressive labeling. *Journal of Applied Behavior Analysis, 11*(4), 489-501. [Carr.E_1978.1]

Carr, E. G., Kologinsky, E., & Leff-Simon, S. (1987). Acquisition of sign language by autistic children: III. Generalized descriptive phrases. *Journal of Autism and Developmental Disorders, 17*(2), 217-229. [Carr.E_1987.1]

Casey, L. (1977). Development of communicative behavior in autistic children: A parent program using signed speech. *Devereux Forum, 21*(1), 1-15. [Casey.L_1977.1]

Fulwiler, R. L., & Fouts, R. S. (1976). Acquisition of American sign language by a noncommunicating autistic child. *Journal of Autism and Childhood Schizophrenia, 6*(1), 43-51. [Fulwiler_1976.1]

Horner, R. H., & Budd, C. M. (1985). Acquisition of manual sign use: Collateral reduction of maladaptive behavior, and factors limiting generalization. *Education & Training of the Mentally Retarded, 20*, 39-47. [Horner_1985.1]

Remington, B., & Clarke, S. (1983). Acquisition of expressive signing by autistic children: An evaluation of the relative effects of simultaneous communication and sign-alone training. *Journal of Applied Behavior Analysis, 16*(3), 315-327. [Remington_1983.1]

Salvin, A., Routh, D. K., Foster, R. E., Jr., & Lovejoy, K. M. (1977). Acquisition of modified American sign language by a mute autistic child. *Journal of Autism and Childhood Schizophrenia, 7*(4), 359-371. [Salvin_1977.1]

Tincani, M. (2004). Comparing the picture exchange communication system and sign language training for children with autism. *Focus on Autism and Other Developmental Disabilities, 19*(3), 152-163. [Tincani_2004.1]

Yoder, P. J., & Layton, T. L. (1988). Speech following sign language training in autistic children with minimal verbal language. *Journal of Autism and Developmental Disorders, 18*(2), 217-229. [Yoder_1988.1]

Social Communication Intervention

Aldred, C., Green, J., & Adams, C. (2004). A new social communication intervention for children with autism: Pilot randomized controlled treatment study suggesting effectiveness. *Journal of Child Psychology and Psychiatry, 45*(8), 1420-1430. [Aldred_2004.1]

Ingersoll, B., Dvortcsak, A., Whalen, C., & Sikora, D. (2005). The effects of a developmental, social-pragmatic language intervention on rate of expressive language production in young children with autistic spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 20*(4), 213-222. [Ingersoll_2005.1]

Keen, D., Rodger, S., Doussin, K., & Braithwaite, M. (2007). A pilot study of the effects of a social-pragmatic intervention on the communication and symbolic play of children with autism. *Autism, 11*(1), 63-71. [Keen_2007.1]

Loncola, J. A., & Craig-Unkefer, L. (2005). Teaching social communication skills to young urban children with autism. *Education and Training in Developmental Disabilities, 40*(3), 243-263. [Loncola_2005.1]

Salt, J., Shemilt, J., Sellars, V., Boyd, S., Coulson, T., & McCool, S. (2002). The Scottish Centre for autism preschool treatment programme. II: The results of a controlled treatment outcome study. *Autism: The International Journal of Research and Practice, 6*(1), 33-46. [Salt_2002.1]

Social Skills Package

Barry, T. D., Klinger, L. G., Lee, J. M., Palardy, N., Gilmore, T., & Bodin, S. D. (2003). Examining the effectiveness of an outpatient clinic-based social skills group for high-functioning children with autism. *Journal of Autism and Developmental Disorders, 33*(6), 685-701. [Barry.T_2003.1]

Gaylord-Ross, R. J., Haring, T. G., Breen, C., & Pitts-Conway, V. (1984). The training and generalization of social interaction skills with autistic youth. *Journal of Applied Behavior Analysis, 17*(2), 229-247. [Gaylord-Ross_1984.1.a]

Gonzalez-Lopez, A., & Kamps, D. M. (1997). Social skills training to increase social interactions between children with autism and their typical peers. *Focus on Autism and Other Developmental Disabilities, 12*(1), 2-14. [Gonzalez-Lopez_1997.1]

Hupp, S. D., & Reitman, D. (2000). Parent-assisted modification of pivotal social skills for a child diagnosed with PDD-NOS: A clinical replication. *Journal of Positive Behavior Interventions, 2*(3), 183-187. [Hupp_2000.1]

Kamps, D. M., Leonard, B. R., Vernon, S., Dugan, E. P., Delquadri, J. C., Gershon, B., et al. (1992). Teaching social skills to students with autism to increase peer interactions in an integrated first-grade classroom. *Journal of Applied Behavior Analysis, 25*(2), 281-288. [Kamps_1992.2]

Kohler, F. W., Strain, P. S., Maretsky, S., & DeCesare, L. (1990). Promoting positive and supportive interactions between preschoolers: An analysis of group-oriented contingencies. *Journal of Early Intervention, 14*(4), 327-341. [Kohler_1990.1]

Kohler, F. W., Strain, P. S., Hoyson, M., Davis, L., Donina, W. M., & Rapp, N. (1995). Using a group-oriented contingency to increase social interactions between children with autism and their peers. A preliminary analysis of corollary supportive behaviors. *Behavior Modification, 19*(1), 10-32. [Kohler_1995.1]

Kroeger, K. A., Schultz, J. R., & Newsom, C. (2007). A comparison of two group-delivered social skills programs for young children with autism. *Journal of Autism and Developmental Disorders, 37*, 808-817. [Kroeger_2007.1]

LeGoff, D. B. (2004). Use of LEGOcopyright as a therapeutic medium for improving social competence. *Journal of Autism and Developmental Disorders, 34*(5), 557-571. [LeGoff_2004.1]

LeGoff, D. B., & Sherman, M. (2006). Long-term outcome of social skills intervention based on interactive LEGOcopyright play. *Autism, 10*(4), 317-329. [LeGoff_2006.1]

Morrison, L., Kamps, D., Garcia, J., & Parker, D. (2001). Peer mediation and monitoring strategies to improve initiations and social skills for students with autism. *Journal of Positive Behavior Interventions, 3*(4), 237-250. [Morrison.L_2001.1]

Ozonoff, S., & Miller, J. N. (1995). Teaching theory of mind: A new approach to social skills training for individuals with autism. *Journal of Autism and Developmental Disorders, 25*(4), 415-433. [Ozonoff_1995.1]

Sasso, G., Melloy, K., & Kavale, K. (1990). Generalization, maintenance, and behavioral co-variation associated with social skills training through structured learning. *Behavioral Disorders, 16*(1), 9-22. [Sasso_1990.1]

Strain, P. S., Kohler, F. W., Storey, K., & Danko, C. D. (1994). Teaching preschoolers with autism to self-monitor their social interactions: An analysis of results in home and school settings. *Journal of Emotional and Behavioral Disorders, 2*(2), 78-88. [Strain_1994.1]

Williams, T. I. (1989). A social skills group for autistic children. *Journal of Autism and Developmental Disorders, 19*(1), 143-155. [Williams.T_1989.1]

Zanolli, K., & Daggett, J. (1998). The effects of reinforcement rate on the spontaneous social initiations of socially withdrawn preschoolers. *Journal of Applied Behavior Analysis, 31*(1), 117-125. [Zanolli_1998.1]

Story-based Intervention Package

Adams, L., Gouvousis, A., VanLue, M., & Waldron, C. (2004). Social story intervention: Improving communication skills in a child with an autism spectrum disorder. *Focus on Autism and Other Developmental Disabilities, 19*(2), 87-94. [Adams_2004.1]

Agosta, E., Graetz, J. E., Mastropieri, M. A., & Scruggs, T. E. (2004). Teacher-researcher partnerships to improve social behavior through social stories. *Intervention in School and Clinic, 39*(5), 276-287. [Agosta_2004.1]

Barry, L. M., & Burlew, S. B. (2004). Using social stories to teach choice and play skills to children with autism. *Focus on Autism and Other Developmental Disabilities, 19*(1), 45-51. [Barry.L_2004.1]

Bellon, M. L., Ogletree, B. T., & Harn, W. E. (2000). Repeated storybook reading as a language intervention for children with autism: A case study on the application of scaffolding. *Focus on Autism and Other Developmental Disabilities, 15*(1), 52-58. [Bellon_2000.1]

Bernard-Ripoll, S. (2007). Using a self-as-model video combined with social stories to help a child with asperger syndrome understand emotions. *Focus on Autism and Other Developmental Disabilities, 22*(2), 100-106. [Bernard-Ripoll_2007.1]

Bledsoe, R., Myles, B. S., & Simpson, R. L. (2003). Use of a social story intervention to improve mealtime skills of an adolescent with asperger syndrome. *Autism: The International Journal of Research and Practice, 7*(3), 289-295. [Bledsoe_2003.1]

Bock, M. A. (2007). The impact of social-behavioral learning strategy training on the social interaction skills of four students with asperger syndrome. *Focus on Autism and Other Developmental Disabilities, 22*(2), 88-95. [Bock_2007.1]

Brownell, M. D. (2002). Musically adapted social stories to modify behaviors in students with autism: Four case studies. *Journal of Music Therapy, 39*(2), 117-144. [Brownell_2002.1]

Crozier, S., & Tincani, M. J. (2005). Using a modified social story to decrease disruptive behavior of a child with autism. *Focus on Autism and Other Developmental Disabilities, 20*(3), 150-157. [Crozier_2005.1]

Delano, M., & Snell, M. E. (2006). The effects of social stories on the social engagement of children with autism. *Journal of Positive Behavior Interventions, 8*(1), 29-42. [Delano_2006.1]

Hagiwara, T., & Myles, B. S. (1999). A multimedia social story intervention: Teaching skills to children with autism. *Focus on Autism and Other Developmental Disabilities, 14*(2), 82-95. [Hagiwara_1999.1]

Hutchins, T. L., & Prelock, P. A. (2006). Using social stories and comic strip conversations to promote socially valid outcomes for children with autism. *Seminars in Speech and Language, 27*(1), 47-59. [Hutchins_2006.1]

Ivey, M. L., Heflin, L., & Alberto, P. (2004). The use of social stories to promote independent behaviors in novel events for children with PDD-NOS. *Focus on Autism and Other Developmental Disabilities, 19*(3), 164-176. [Ivey_2004.1]

Kuoch, H., & Mirenda, P. (2003). Social story interventions for young children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 18*(4), 219-227. [Kuoch_2003.1]

Lorimer, P. A., Simpson, R. L., Myles, B. S., & Ganz, J. B. (2002). The use of social stories as a preventative behavioral intervention in a home setting with a child with autism. *Journal of Positive Behavior Interventions, 4*(1), 53-60. [Lorimer_2002.1]

Norris, C., & Dattilo, J. (1999). Evaluating effects of a social story intervention on a young girl with autism. *Focus on Autism and Other Developmental Disabilities, 14*(3), 180-186. [Norris_1999.1]

Reynhout, G., & Carter, M. (2007). Social story efficacy with a child with autism spectrum disorder and moderate intellectual disability. *Focus on Autism and Other Developmental Disabilities, 22*(3), 173-182. [Reynhout_2007.1]

Sansosti, F. J., & Powell-Smith, K. A. (2006). Using social stories to improve the social behavior of children with asperger syndrome. *Journal of Positive Behavior Interventions, 8*, 43-57. [Sansosti_2006.1]

Scattone, D., Wilczynski, S. M., Edwards, R. P., & Rabian, B. (2002). Decreasing disruptive behaviors of children with autism using social stories. *Journal of Autism and Developmental Disorders, 32*(6), 535-543. [Scattone_2002.1]

Scattone, D., Tingstrom, D. H., & Wilczynski, S. M. (2006). Increasing appropriate social interactions of children with autism spectrum disorders using social stories. *Focus on Autism and Other Developmental Disorders, 21*(4), 221-222. [Scattone_2006.1]

Swaggart, B., Gagnon, E., Bock, S. J., Earles, T. L., & et al. (1995). Using social stories to teach social and behavioral skills to children with autism. *Focus on Autistic Behavior, 10*(1), 1-16. [Swaggart_1995.1]

Structured Teaching Approach

Ozonoff, S., & Cathcart, K. (1998). Effectiveness of a home program intervention for young children with autism. *Journal of Autism and Developmental Disorders, 28*(1), 25-32. [Ozonoff_1998.1]

Panerai, S., Ferrante, L., & Caputo, V., & Impellizzeri, C. (1998). Use of structured teaching for treatment of children with autism and severe and profound mental retardation. *Education and Training in Mental Retardation and Developmental Disabilities, 33*(4), 367-374. [Panerai_1998.1]

Panerai, S., Ferrante, L., & Zingale, M. (2002). Benefits of the treatment and education of autistic and communication handicapped children (TEACCH) programme as compared with a non-specific approach. *Journal of Intellectual Disability Research: JIDR, 46*(4), 318-327. [Panerai_2002.1]

Tsang, S. K., Shek, D. T., Lam, L. L., Tang, F. L., & Cheung, P. M. (2006). Brief report: Application of the TEACCH program on Chinese pre- school children with autism—does culture make a difference? *Journal of Autism and Developmental Disorders, 37*(2), 390-396. [Tsang_2006.1]

Technology-based Treatment

Bernard-Optiz, V., Sriran, N., & Sapuan, S. (1999). Enhancing vocal imitations in children with autism using the IBM speech viewer. *Autism: International Journal of Research and Practice, 3,* 131-147. [Bernard-Opitz_1999.1]

Bernard-Opitz, V., Sriram, N., & Nakhoda-Sapuan, S. (2001). Enhancing social problem solving in children with autism and normal children through computer-assisted instruction. *Journal of Autism and Developmental Disorders, 31*(4), 377-384. [Bernard-Opitz_2001.1]

Bosseler, A., & Massaro, D. W. (2003). Development and evaluation of a computer-animated tutor for vocabulary and language learning in children with autism. *Journal of Autism and Developmental Disorders, 33*(6), 653-672. [Bosseler_2003.1.a.b]

Chen, S. H. A., & Bernard-Opitz, V. (1993). Comparison of personal and computer-assisted instruction for children with autism. *Mental Retardation, 31*(6), 368-376. [Chen_1993.1]

Ferguson, H., Smith Myles, B., & Hagiwara, T. (2005). Using a personal digital assistant to enhance the independence of an adolescent with asperger syndrome. *Education and Training in Developmental Disabilities, 40*(1), 60-67. [Ferguson_2005.1]

Heimann, M., Nelson, K. E., Tjus, T., & Gillberg, C. (1995). Increasing reading and communication skills in children with autism through an interactive multimedia computer program. *Journal of Autism and Developmental Disorders, 25*(5), 459-480. [Heimann_1995.1]

Hetzroni, O. E., & Tannous, J. (2004). Effects of a computer-based intervention program on the communicative functions of children with autism. *Journal of Autism and Developmental Disorders, 34*(2), 95-113. [Hetzroni_2004.1]

Hetzroni, O. E., & Shalem, U. (2005). From logos to orthographic symbols: A multilevel fading computer program for teaching nonverbal children with autism. *Focus on Autism and Other Developmental Disabilities, 20*(4), 201-212. [Hetzroni_2005.1]

Mechling, L. C., Pridgen, L. S., & Cronin, B. A. (2005). Computer-based video instruction to teach students with intellectual disabilities to verbally respond to questions and make purchases in fast food restaurants. *Education and Training in Developmental Disabilities, 40*(1), 47-59. [Mechling_2005.1]

Moore, D., Cheng, Y., McGrath, P., & Powell, N. (2005). Collaborative virtual environment technology for people with autism. *Focus on Autism and Other Developmental Disabilities, 20*(4), 231-243. [Moore.D_2005.1]

Myles, B. S., Ferguson, H., & Hagiwara, T. (2007). Using a personal digital assistant to improve the recording of homework assignments by an adolescent with asperger syndrome. *Focus on Autism and Other Developmental Disabilities, 22*(2), 96-99. [Myles_2007.1]

Robins, B., Dautenhahn, K., Boekhorst, R.T., & Billard, A. (2005). Robotic assistants in therapy and education of children with autism: Can a small humanoid robot help encourage social interaction skills? *Universal Access in the Information Society, 4*(2), 105-120. [Robins_2005.1]

Tarbox, J., Wallace, M. D., & Tarbox, R. S. (2002). Successful generalized parent training and failed schedule thinning of response blocking for automatically maintained object mouthing. *Behavioral Interventions, 17*(3), 169-178. [Tarbox.J_2002.1]

Silver, M., & Oakes, P. (2001). Evaluation of a new computer intervention to teach people with autism or asperger syndrome to recognize and predict emotions in others. *Autism: The International Journal of Research and Practice, 5*(3), 299-316. [Silver_2001.1]

Simpson, A., Langone, J., & Ayres, K. M. (2004). Embedded video and computer based instruction to improve social skills for students with autism. *Education and Training in Developmental Disabilities, 39*, 240-252. [Simpson.A_2004.1]

Taylor, B. A., Hughes, C. E., Richard, E., Hoch, H., & Coello, A. R. (2004). Teaching teenagers with autism to seek assistance when lost. *Journal of Applied Behavior Analysis, 37*(1), 79-82. [Taylor.B_2004.1]

Tjus, T., Heimann, M., & Nelson, K. E. (1998). Gains in literacy through the use of a specially developed multimedia computer strategy. *Autism, 2*(2), 139-156. [Tjus_1998.1]

Tjus, T., Heinmann, M., & Nelson, K. (2001). Interaction patterns between children and their teachers when using a specific multi-media and communication strategy: Observations from children with autism and mixed intellectual disabilities. *Autism: The International Journal of Research and Practice, 5*(2), 175-187. [Tjus_2001.1]

Tjus, T., Heimann, M., & Nelson, K. (2004). Reading acquisition by implementing a multimedia intervention strategy for fifty children with autism or other learning and communication disabilities. *Journal of Cognitive and Behavioral Psychotherapies, 4*(2), 203-221. [Tjus_2004.1]

Theory of Mind Training

Bell, K. S., & Kirby, J. R. (2002). Teaching emotion and belief as mindreading instruction for children with autism. *Developmental Disabilities Bulletin, 30*(1), 16-50. [Bell_2002.1]

Fisher, N., & Happe, F. (2005). A training study of theory of mind and executive function in children with autistic spectrum disorders. *Journal of Autism and Developmental Disorders, 35*(6), 757-771. [Fisher.N_2005.1]

Gevers, C., Clifford, P., Mager, M., & Boer, F. (2006). Brief report: A theory-of-mind-based social-cognition training program for school-aged children with pervasive developmental disorders: an open study of its effectiveness. *Journal of Autism and Developmental Disorders, 36*(4), 567-571. [Gevers_2006.1]

Wellman, H. M., Baron-Cohen, S., Caswell, R., Gomez, J. C., Swettenham, J., Toye, E., et al. (2002). Thought-bubbles help children with autism acquire an alternative to a theory of mind. *Autism, 6*(4), 343-363. [Wellman_2002.1.a.b]

Index} Treatment Names

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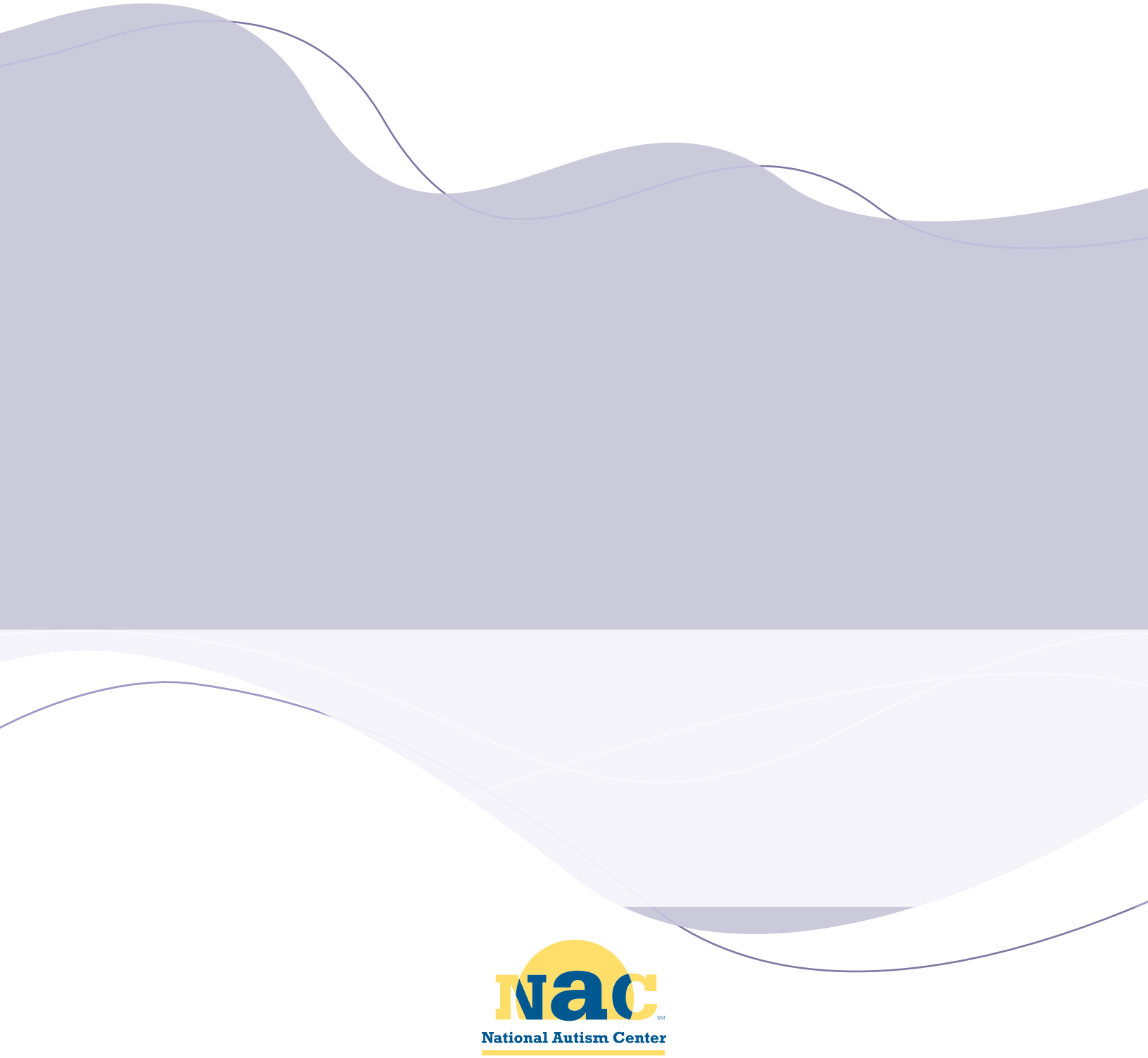

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