

1 Interpersonal Relationship Interventions and Treatments

Interpersonal relationship strategies and intervention methods are based on the notion that individuals with autism spectrum disorders (ASD) have a disability wherein they manifest an emotional reaction associated with an absence of parental warmth and caring (Kanner, 1949). Accordingly, at least some of these treatments are based on components of psychotherapy. However, because many individuals with ASD lack the language, cognitive, and social skills to benefit from traditional therapy, the use of psychotherapy has been limited. Nevertheless, relationship-based intervention for persons with ASD continues to be an element of the autism intervention landscape. In this regard, Hobson (1990), observed the following:

Sufficiently early and profound disruption in a child's interpersonal-affective relatedness can give rise to marked deficits in the capacity to symbolize, and together these disabilities may not only account for characteristically "autistic" defects in the cognitive, language, and social spheres, but may also explain the child's restricted, stereotyped activities. (p. 327)

This perspective argues for a social-affective interpretation of autism spectrum disorders and the need for persons with autism-related disabilities to express their attachments to others in appropriate ways. Accordingly, relationship-based approaches seek to facilitate affect, attachment,

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bonding, and a sense of relatedness. Some researchers and practitioners view interpersonal relationship enhancement methods negatively due to the general lack of scientific evidence supporting their veracity. However, they are reviewed in this book because they represent a significant part of autism history, and these methods continue to be used in spite of their lack of empirical support.

References

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HOLDING THERAPY

Age/Ability Level of Intervention

- Suggested Ages: Birth to age 10
- Suggested Diagnostic Groups and Related Characteristics: Mild to moderate ASD, Asperger syndrome, and other disabilities
- Suggested Ability Levels: Average to above average intelligence

Description of Intervention

The most commonly known holding therapy related to ASD, Holding Time, was developed by child psychiatrist Martha Welch (1988b). Welch's approach is based on similar therapies developed and researched in Germany in the 1980s (Stades-Veth, 1988), as described in Welch's book, *Holding Time* (1988a). The hypothesis that underlies holding therapy is that children with ASD and other related disorders have a disturbed attachment to their mothers. Accordingly, based on this purported ruptured bond, withdrawal is a defense mechanism. Holding therapy is based on the notion that intense physical and emotional contact through "mother-child holding" will repair this broken bond and form the foundation for normal development.

There are three parts to the Holding Time sequence: (1) confrontation, (2) rejection, and (3) resolution. During the confrontation stage, the mother and child position themselves so that they can easily make eye contact and "hold" each other. The mother insists on eye contact, sometimes physically forcing it. Thus, the mother begins to elicit and express communication about feelings. This leads to child resistance, known as the rejection stage. During this stage, the mother continues to hold the child no matter how vigorously the child fights, with the intent to communicate the message "nothing can come between us—not your

anger and not even my anger” (Welch, 1988a, p. 52). The rejection stage continues until avoidance behavior gives way to physical and verbal closeness (the resolution stage), with the development of a strong, loving, enduring bond being the ultimate goal.

Reported Benefits and Effects of Intervention

Welch (1988b) claims that some children with ASD have fully recovered from their disability and achieved normal development, and that all others showed some cognitive, emotional, and/or physiological improvement after being treated with her version of mother-child holding therapy. She reports similar results for children with oppositional defiant disorder, conduct disorder, attention deficit hyperactivity disorder, learning disabilities, attachment disorder, depression, developmental disorders, and other affective disorders. However, these claims are based largely on anecdotal case studies with little or no empirical research to support them.

<i>Author</i>	<i>N</i>	<i>Setting</i>	<i>Age/Gender</i>	<i>Diagnoses</i>	<i>Outcomes/Findings</i>	<i>Comments</i>
Welch (1988b)	10	Clinic or child's home	3–13 yrs.; males and females	Autism	All subjects showed some improvement on all but one parameter of the Behavior Rating Instrument for Autistic and Other Atypical Children (BRIAAC)	No control group

Synthesis of How Outcomes Relate to Utilization of Intervention With Individuals With ASD

Holding therapy was created to treat individuals with disorders hypothesized to be caused, at least in part, by the failure to develop a sufficient bond with a primary caregiver. Welch believed that, for many individuals with ASD, this was the cause of their disorder and therefore recommends holding therapy for this population.

Qualifications of Persons Implementing Intervention and How, Where, and When It Can Be Administered

Holding therapy is performed by the mother with support from the father or other family members under close supervision and facilitation of a trained therapist within the United States. Treatment facilities were located in New York City; Greenwich, Connecticut; and Chautauqua,

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New York. Holding therapy can be administered at any time and at any appropriate location after training has been completed.

Potential Risks of Intervention

Any intervention that involves force is potentially physically and psychologically harmful. Numerous critics of Holding Time have made many arguments against its use. These arguments include (1) disturbingly, children who experience holding therapy may learn to feign attachment behavior; (2) forced holding may potentially cause extreme discomfort when used with children who have tactile defensiveness, hypersensitivity, and/or difficulty making and maintaining eye contact; (3) forced holding at the hand of an adult that the child loves and trusts may be psychologically damaging rather than beneficial; and (4) parents who use holding therapy may have the unrealistic hope that their child can be cured of autism or another disorder, which may have devastating effects on the family if their efforts prove to be futile.

Price of Utilizing Intervention

Treatment plans are developed for each patient on an individual basis. Thus, the severity of the case and the nature of the treatment plan will determine the cost.

Method of Evaluating Efficacy of Intervention for Individuals With ASD

Any philosophy or treatment method should be based on a child's individual needs, and the method should be monitored to establish efficacy of intervention. To date, holding therapy has not undergone rigorous scientific evaluation.

Conclusions

Holding therapy or Holding Time is a therapy that is designed to improve the functioning of individuals with ASD and related disorders by restoring and strengthening the bond between the child and his or her mother or primary caregiver. However, the hypothesis that autism spectrum disorders are the result of a broken mother-child bond has not been supported by empirical evidence. Considering the fact that few scientific studies have been conducted that provide empirical support for the effectiveness of Holding Time and the potential serious risks of this intervention, it is not recommended for individuals with autism spectrum disorders.

Rating of Intervention: Not Recommended

References, Resources, and Suggested Readings

References

- Stades-Veth, J. (1988). *Autism broken symbiosis: Persistent avoidance of eye contact with mother. Causes, consequences, prevention and cure for autistiform behavior in babies through "mother-child holding."* (ERIC Document Reproduction Service No. ED 294-344)
- Welch, M. G. (1988a). *Holding time*. New York: Simon and Schuster.
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Resources and Suggested Readings

- Heflin, L. J., & Simpson, R. L. (1998). Interventions for children and youth with autism: Prudent choices in a world of exaggerated claims and empty promises. Part I: Intervention and treatment option review. *Focus on Autism and Other Developmental Disabilities*, 13(4), 194-211.
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GENTLE TEACHING

Age/Ability Level of Intervention

- Suggested Ages: All ages
- Suggested Diagnostic Groups and Related Characteristics: Severe to mild ASD, Asperger syndrome, and other disabilities
- Suggested Ability Levels: Severe cognitive disability to above average intelligence

Description of Intervention

Gentle Teaching is a philosophical approach that emphasizes safe and caring relationships between caregivers and individuals with ASD. It was originally designed as a nonaversive method for reducing challenging behaviors and improving the quality of life for people who exhibited

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maladaptive behaviors. By focusing on environmental and interpersonal factors, the goal of Gentle Teaching is to create bonded relationships between individuals with disabilities and their caregivers, and the interpersonal bond that results from this intervention forms the foundation for making positive changes. Relative to individuals with ASD, Gentle Teaching purportedly can be used to reduce a variety of challenging behaviors that are barriers to inclusive education, community participation, and interactions with peers (Fox, Dunlap, & Buschbaker, 2000; McGee, 1990).

Four basic assumptions form the foundation of Gentle Teaching (McGee, 1990): (1) frequent and unconditional value giving is central to interactional exchange; (2) everyone has an inherent longing for affection and warmth; (3) dominating actions, such as the use of restraint and punishment, need to be decreased and replaced with value-centered behaviors; and (4) change in both the caregiver and the person exhibiting maladaptive behaviors is critical.

According to McGee (1990), within the context of a Gentle-Teaching-enhanced relationship, various techniques are used, including the following:

- Errorless teaching strategies
- Task analysis
- Environmental management
- Precise and conservative prompting
- Joint participation in activities
- Identification of precursors to target behaviors
- Reduction of verbal instructions
- Reduction of verbal and/or physical demands
- Choice making
- Fading assistance
- Integration of other caregivers and peers into relationships
- Use of dialogue as an expression of unconditional valuing

Caregivers use the aforementioned techniques in various combinations based on their own judgment of the moment-to-moment changes in the learner's behavior (Jones & McCaughey, 1992; McGee, 1985b). The primary goals of Gentle Teaching are to establish a mutually beneficial relationship based on feelings of safety and security, participation, and valuing, rather than simple behavioral control (McGee, 1990).

Reported Benefits and Effects of Intervention

McGee (1985a), one of the main developers of Gentle Teaching, reported that the approach has been used to decrease the problem behaviors of more than 600 individuals. However, McGee's research has been criticized for

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having significant methodological limitations, which make it difficult to conclude that the positive changes in behavior were caused by Gentle Teaching and not other extraneous factors. Other claims of positive outcomes associated with the use of Gentle Teaching are based on anecdotal reports.

<i>Author(s)</i>	<i>N</i>	<i>Setting</i>	<i>Age/Gender</i>	<i>Diagnoses</i>	<i>Outcomes/Findings</i>	<i>Comments</i>
McGee (1985a)	More than 600	Community programs, hospitals, group homes, state institutions	16–44 yrs.: males and females	Mild to severe mental handicaps, schizophrenia, manic depression	All maladaptive behaviors decreased	All one-to-one teaching situations; no baseline data
Jordan, Singh, & Repp (1989)	3	Institution	7, 21, and 28 yrs.: all males	Profound mental handicaps	Stereotypy behavior decreased Less effective than visual screening	Small time frame may not have allowed for sufficient bonding Gentle Teaching strategies used not specifically identified or operationalized
Paisey, Whitney, & Moore (1989)	2	Day program	30 and 32 yrs.: males	Profound mental handicaps	Head hitting decreased Less effective than differential reinforcement of incompatible behavior plus interruption and graduated guidance	Small number of subjects Small time frame may not have allowed for sufficient bonding Gentle Teaching strategies used not specifically identified or operationalized
Kelley & Stone (1989)	1	Classroom	12 yrs.: female	Not given	Increased social interactions Duration and intensity of aggression decreased but rate did not	Small number of subjects Gentle Teaching strategies used not specifically identified or operationalized No baseline or control conditions
Jones, Singh, & Kendall (1991)	1	Institution	44 yrs.: male	Profound mental handicap	Initial but temporary reduction in self-injury using Gentle Teaching Visual screening more effective than Gentle Teaching in reducing self-injury	Small number of subjects Small time frame may not have allowed for sufficient bonding Gentle Teaching strategies used not specifically identified or operationalized

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Synthesis of How Outcomes Relate to Utilization of Intervention With Individuals With ASD

Gentle Teaching is a behavior management philosophy. It can be used with individuals who exhibit challenging behaviors, including those with ASD. The techniques included as a part of Gentle Teaching can also be used to facilitate acquisition and maintenance of skills (e.g., prompting and fading).

Qualifications of Persons Implementing Intervention and How, Where, and When It Can Be Administered

Anyone who has been appropriately trained and who works with individuals with disabilities can potentially use Gentle Teaching in any one of a number of environments. Limited official and formal training in Gentle Teaching is available.

Potential Risks of Intervention

There are no known direct negative side effects associated with the Gentle Teaching method. However, because this method is opposed to the use of any type of aversive method, including physical restraint, caregivers who adhere rigidly to the Gentle Teaching philosophy may be exposed to dangerous situations in instances where they are involved with individuals who exhibit severe aggression.

Price of Utilizing Intervention

Implementing Gentle Teaching requires only the financial resources needed to train caregivers in its philosophy and techniques. Since no official training is known to be offered, it is difficult to determine the amount of time needed to adequately do this. Subsequent to training, a significant amount of time may be needed to create a bonded relationship between caregiver and client. Such a bond is the basis for creating positive change.

Method of Evaluating Efficacy of Intervention for Individuals With ASD

Any philosophy or treatment method should be based on a child's individual needs, and the method should be monitored to establish efficacy of intervention. To date, Gentle Teaching has not undergone rigorous scientific evaluation.

Conclusions

Gentle Teaching is primarily a philosophy that guides caregivers in interacting with individuals with disabilities, specifically those who exhibit maladaptive behavior. To date, no strong empirically valid research-based data support this approach. However, the basic premises of the philosophy (unconditional value giving, decreased use of punishment and restraint, attention to the behavior of both the client and the caregiver) hold significant value for individuals who work with persons with ASD. In addition, various applied behavioral analysis techniques used as elements of this method are supported by research.

Rating of Intervention: Limited Supporting Information for Practice

References, Resources, and Suggested Readings

References

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Resources and Suggested Readings

Gentle Teaching: www.gentlelearning.nl

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- Mudford, O. C. (1995). Review of gentle teaching data. *American Journal on Mental Retardation, 99*(4), 345–355.

OPTION METHOD (SON-RISE PROGRAM)

Age/Ability Level of Intervention

- Suggested Ages: All ages
- Suggested Diagnostic Groups and Related Characteristics: Severe to mild autism
- Suggested Ability Levels: Severe cognitive disability to above average intelligence; non- or minimal language and social relatedness

Description of Intervention

In the mid-1970s, Barry Neil Kaufman and his wife, Samahria, developed the Son-Rise Program based on the Option Method after their son, Raun, was diagnosed with autism (B. Kaufman, 1976). They decided to create their own in-home, child-centered program for Raun as an alternative to the traditional intervention programs available at that time. Barry discovered the Option Method (“the pursuit of exposing and choosing beliefs”) in a class he was attending and adopted the Option Attitude (“to love is to be happy with”) (B. Kaufman, 1976, p. 23). The fundamental theme of the approach is that the Option teacher makes no judgment, good or bad, regarding a child’s behaviors, but rather is a facilitator of learning for the child with autism by allowing the child to self-direct his or her own learning. This philosophy became the basis for the Kaufmans’ way of life and the foundation for the teaching methods and intervention that they used with Raun. Barry Kaufman wrote an account of his family’s quest to help their son and brother: *Son-Rise* (1976).

In 1983, Barry and Samahria Kaufman founded the Autism Treatment Center of America, which is based at the Option Institute and Fellowship in Massachusetts (Autism Treatment Center of America, 1998–2003). They train professionals and parents to design and implement home-based, child-centered programs for children with ASD,

thereby improving children's learning, development, communication, and skill acquisition (Autism Treatment Center of America, 1998–2003).

In the article *Breaking Through Autism*, Raun Kaufman explains the foundational principle of the Son-Rise Program, which is that “the children show us the way in, and then we show them the way out” (R. Kaufman, 1998–2003). He explains several of the important techniques that therapists in the Son-Rise Program utilize, which are built upon this foundation. One is the principle of *joining*, in which an adult joins in any repetitive or preservative behavior that the child with ASD is doing. Doing so demonstrates to the child that his or her ritualistic and excessive behaviors are not “inappropriate,” “bad,” “wrong,” or “deficiencies”; instead, joining shows the child that he or she is accepted without judgment. Another technique capitalizes on children's motivation to facilitate skill acquisition by using materials and curricula that match their interests. Overall, the objective of the Son-Rise Program is to establish a mutual connection and relationship with the child with autism as a platform for education and development.

Reported Benefits and Effects of Intervention, and Synthesis of How Outcomes Relate to Utilization of Intervention With Individuals With ASD

On the Son-Rise Program website (click the “Statistics” link under “What is Son-Rise?” and “More Info”), the Autism Treatment Center of America reports satisfaction results from surveys completed by 580 parents who implemented the Son-Rise Program with their own children with ASD. The results revealed that 92% of the respondents reported an increase in their child's use of language, 90% reported an increase in their child's attention span, and 92% reported an increase in their child's eye contact (Autism Treatment Center of America, 1998–2003). There are also several testimonials from families and teachers who have implemented the Son-Rise method available on this website. Other testimonies have periodically been provided in newspaper articles (available in the information packet from the Option Institute and Fellowship, 2004), and in Kaufman's newest book (*Son-Rise: The Miracle Continues*, 1994), there are several case studies that tell the stories of several families who have successfully utilized the Son-Rise Program with their children with ASD. In 1979, NBC made a television movie, *Son-Rise: A Miracle of Love* (Jordan, 1979), based on Kaufman's 1976 book. This greatly increased the awareness of the Option Institute and the Son-Rise Program intervention methods.

Although many families report satisfaction with the Son-Rise Program, to date, there is no available scientific research that validates the efficacy and benefits of the Son-Rise Program. Thus, it is important that

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families take into consideration this lack of research and data-based evidence and exercise caution when considering utilizing this method.

Qualifications of Persons Implementing Intervention and How, Where, and When It Can Be Administered

Individuals who wish to utilize the Son-Rise intervention method with their child with ASD can obtain training and information from the Option Institute and Fellowship. The Autism Treatment Center of America offers a three-step training program for parents and professionals. Step 1, the Start-Up program, is a five-day group training program wherein participants attend classes and gain the basic skills for creating a home-based program for a child with ASD. Step 2, the Maximum Impact program, is advanced group training for graduates of the Start-Up program. Step 3 is the Son-Rise Program Intensive, which is a one-week intensive, individualized training program for families and their child with ASD. A family stays for a week in a home at the Option Institute and Fellowship and works directly with Son-Rise Program child facilitators for 40 hours. The family members are trained and supervised in the one-to-one facilitation of a child-centered intervention program for their child.

In addition, there are special training programs for individuals who want to become a Son-Rise Program child facilitator or a Son-Rise Program family trainer. Child facilitators work directly with children, whereas family trainers work with families and their children with ASD, teaching them and modeling the components of the Son-Rise Program.

The Autism Treatment Center of America also provides support services for parents and professionals who implement the Son-Rise Program within their homes. These services include consultation, video-feedback training, and group presentations and training programs. An initial 30-minute consultation is provided free for individuals calling for the first time.

Typically, families develop and implement their child-centered Son-Rise Program within their home and rely on the support of volunteers to assist in the intervention. The Autism Treatment Center of America does not suggest that families implement the Son-Rise Program with their child for any specified amount of time (per day or week). They state that only a few hours a day “can be incredibly effective” (Autism Treatment Center of America, 1998–2003).

Potential Risks of Intervention

The Kaufmans reportedly implemented the Son-Rise method at the exclusion of all other educational and behavioral intervention methods. They also utilized special diets with their son Raun, although these are not a specific component of the Son-Rise Program.

No information is available that describes the possible risks of utilizing the Son-Rise Program with children with ASD. The center does recommend that families train volunteers before those volunteers are permitted to work with their children. The Autism Treatment Center of America does not provide benefit guarantees related to the use of the Son-Rise method with individuals with ASD.

Price of Utilizing Intervention

Information regarding the costs of the various Son-Rise training programs is available upon request from the Autism Treatment Center of America. It is likely that modest costs are associated with the use of this intervention if families implement the program in their own home using volunteers.

Method of Evaluating Efficacy of Intervention for Individuals With ASD

The Autism Treatment Center of America does not suggest or provide any methods for maintaining data or records regarding the progress or lack of progress of children who receive the Son-Rise intervention. In his book *Son-Rise*, Barry Kaufman describes daily discussions that he and his wife had regarding their son's progress. These discussions were the basis for program modifications and other decisions regarding subsequent intervention methods.

It appears that people who use the Son-Rise Program frequently judge the efficacy of the method by assessing changes in the type (eye contact, attentiveness, proximity, touch, and so on) and quantity of responses that occur in children with whom they work.

Conclusions

The Son-Rise Program focuses directly on a child and follows his or her lead throughout the intervention. Accordingly, establishing a close bond through complete acceptance and love of the child is the foundation of the Son-Rise Program. This philosophy is very attractive to parents and families who may feel rejected and shut out of their child's life and are thus offered a way of joining their child in his or her "other world." It is significant to note that bonding, or *pairing*, with the child with ASD is the basis for many empirically based educational and behavioral intervention programs. That is, many of the same methods and techniques recommended as part of the Son-Rise Program are also used within scientifically supported programs. Although this program appears to be associated

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with positive outcomes, it is important to remember that the effectiveness of these techniques has not been empirically investigated.

Rating of Intervention: Limited Supporting Information for Practice

References

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DEVELOPMENTAL, INDIVIDUAL-DIFFERENCE, RELATIONSHIP-BASED MODEL (FLOOR TIME)

Age/Ability Level of Intervention

- Suggested Ages: All ages
- Suggested Diagnostic Groups and Related Characteristics: Severe to mild ASD, Asperger syndrome, and other developmental disabilities
- Suggested Ability Levels: Severe cognitive disability to above average intelligence

Description of Intervention

Stanley I. Greenspan developed the Developmental, Individual-Difference, Relationship-Based Model Intervention Program, or DIR. At the core of this approach is an intervention known as *floor time* (Greenspan, Wieder, & Simons, 1998). Floor time is a play-based interactive intervention approach that emphasizes individual differences, child-centered interests, and affective interactions between a child and a caregiver. The name of the intervention acknowledges that learning and play activities involving children frequently take place on the floor (Heflin & Simpson, 1998). Floor time is based on Greenspan's developmental theory, which suggests that critical missed developmental or functional milestones may be systematically acquired through intensive child-directed play and positive interactions with warm and caring individuals. Underpinning

Greenspan's developmental theory are six fundamental developmental milestones that are goals of treatment (Greenspan et al., 1998):

- The dual ability to take an interest in the sights, sounds, and sensations of the world and to calm oneself down
- The ability to engage in relationships with other people
- The ability to engage in two-way communication
- The ability to create complex gestures and to string together a series of actions into an elaborate and deliberate problem-solving sequence
- The ability to create ideas
- The ability to build bridges between ideas to make them reality-based and logical (pp. 3–4)

Four primary goals are associated with the floor time method: “(1) encouraging attention and intimacy, (2) two-way communication, (3) encouraging the expression and use of feelings and ideas, and (4) logical thought” (Greenspan et al., 1998, p. 125). Ultimately, the primary goal of the floor time or DIR model is “to enable children to form a sense of themselves as intentional, interactive individuals and to develop cognitive language and social capacities from this basic sense of intentionality” (Greenspan & Wieder, 2000, p. 289). More specifically, this intervention aims to assist the child in (1) increasing alertness, self-initiative, frustration tolerance, and sequencing relative to planning and executing extended actions; (2) enhancing flexibility, (3) improving problem solving; (4) communicating through gestures and speech; and (5) enjoying learning (Messina, 1999–2004).

Floor time is designed for use with infants, toddlers, and preschoolers. However, it may also be used with older children. This intervention requires that the caregiver or *play partner* take an active, developmental role in spontaneous and fun activities that are directed by the child's interests and actions. There are five steps in the floor time process: (1) observation, (2) approach—open circles of communication, (3) follow the child's lead, (4) extend and expand play, and (5) child closes the circle of communication (Messina, 1999–2004). Each step is briefly described in the following sections.

Step 1: Observation

During the initial step, *observation*, the observer both listens and watches the child to determine how best to approach him or her. Facial, body, and verbal expressions, as well as voice tone, serve as cues for this process (Messina, 1999–2004).

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Step 2: Approach—Open Circles of Communication

In the second step, *approach—open circles of communication*, the child is approached using suitable words and gestures based on his or her mood and communication/behavior style, as assessed during Step 1. Through recognition of the child's emotional tenor and expanding on the interests of the child in the moment, a circle of communication is opened (Messina, 1999–2004). It is during this step that the play partner may introduce a “creative obstruction” (i.e., moving a preferred toy out of the child's reach) for the purpose of capitalizing on the child's greatest interests (Heflin & Simpson, 1998).

Step 3: Follow the Child's Lead

During the third step, the child is permitted to establish the tone, guide the activity, and “create personal dramas” (Messina, 1999–2004) as the observer, or play partner, provides support. Through this supportive interaction with the play partner, the child experiences feelings of “warmth, connectedness and being understood” (Messina, 1999–2004) and increases his or her self-esteem and assertive abilities while developing a sense of personal influence on the world (Messina, 1999–2004).

Step 4: Extend and Expand Play

The play partner makes encouraging comments regarding the child's play during the *extend and expand play* step. The primary goal of this step is to assist the child in the expression of ideas through asking questions designed to “stimulate creative thinking” as well as to “clarify the emotional themes” (Messina, 1999–2004).

Step 5: Child Closes the Circle of Communication

Finally, when the child expands on the comments and gestures of the play partner with comments and gestures of his or her own, the child closes the circle of communication. Interactions with the child allow for several circles of communication to be opened and closed in rapid succession, such that the child's sense of appreciation and understanding of the meaning of two-way communication emerges (Messina, 1999–2004).

Greenspan et al. (1998, pp. 127–129) propose several guidelines during floor time implementation:

- Pick a time when you know you can give your child an uninterrupted 20 to 30 minutes.
- Try to stay patient and relaxed.
- Empathize with your child's emotional tone.
- Be aware of your own feelings (because they will affect how you relate to your child).

- Monitor your tone of voice and gestures.
- Follow your child's lead and interact!
- Tune in to your child's multiple developmental levels.
- No hitting, breaking, or hurting.

Reported Benefits and Effects of Intervention

An informal literature base describing both the philosophy and practice of the DIR intervention is available on the Internet (see the following table). However, there is little objective scientific research that empirically validates floor time as an efficacious intervention. Despite this lack of empirical support, floor time is gaining in popularity as parents and professionals provide testimonial evidence of its efficacy (Siegel, 1999).

<i>Author(s)</i>	<i>N</i>	<i>Setting</i>	<i>Age/ Gender</i>	<i>Diagnoses</i>	<i>Outcomes/Findings</i>	<i>Comments</i>
Greenspan & Wieder (1997)	200	Unknown	22 mos.– 4 yrs.; males and females	ASD	Several findings including that an individually based treatment approach emphasizing developmental levels and affective interaction may be particularly promising for children with ASD	Ultimate purpose of study was to identify hypotheses for future research; clear limitations to research approach/methodology

Synthesis of How Outcomes Relate to Utilization of Intervention With Individuals With ASD

Integral to Greenspan's theory is the notion that emotions play a key role in providing purpose for actions and directing behavior. To this end, the DIR relationship-based therapy approach may have special significance for children with ASD who may lack the "capacity to connect 'intent' or affect to motor-planning and sequencing capacities" (Greenspan et al., 1998, p. 117).

Although floor time is promoted as an approach relevant to all children, it appears particularly well suited for children with ASD. However, Siegel (1999) suggests that children with ASD may lack certain levels of basic "receptive nonverbal communication, language and imitation" upon which floor time is dependent. Moreover, Siegel (1999) reports that floor time may be more beneficial for children for whom choice is an effective incentive.

Qualifications of Persons Implementing Intervention and How, Where, and When It Can Be Administered

There are no special qualifications required for using floor time. Any teacher, therapist, family member, friend, or other interested individual may implement the strategy. A training video (Interdisciplinary Council on Developmental and Learning Disorders, n.d.) featuring demonstrations by Stanley Greenspan, M.D., and Serena Wieder, Ph.D., is available.

Floor time can be used in virtually any setting and at any time. Floor time is appropriate in the school, in the home, and/or as a component of other comprehensive therapy programs. Greenspan et al. (1998) recommend integration of floor time with occupational, speech, and physical therapy to bolster the acquisition of the six functional milestones associated with the method. Greenspan et al. (1998) advocate a “floor time philosophy during all waking hours” (p. 129) for many children with exceptional needs and particularly for children who have severe challenges. To this end, Messina (1999–2004) suggests there are numerous opportunities to use floor time to help children solve problems that occur in natural contexts. For example, daily living routines and tasks (e.g., meal times, bath times, bed-times, transition times) can provide opportunities for floor time (Messina, 1999–2004). Further, Greenspan et al. (1998) suggest that structured floor time be implemented at a rate of six to ten sessions per day, each of which lasts 20 to 30 minutes, particularly for children with severe challenges.

Potential Risks of Intervention

There are no apparent risks or purported side effects that are associated with this intervention. However, because appropriate implementation of this intervention (1) encourages participation by all family members, (2) may encompass all aspects in the daily life of the family, and (3) often includes others involved with the child in school, therapeutic settings, and social circles, it is recommended that a coordinated effort be directed toward providing support to all those involved in administering floor time. The purpose of this “team approach” is to minimize familial stress and to create a network of support that will surround the child and sustain the efforts of all involved (Greenspan et al., 1998).

Price of Utilizing Intervention

No monetary costs beyond the training video and/or “props” (i.e., materials related to various themes of interest to the child, and constructive obstruction props) are associated with use of this intervention. To this end, floor time appears to be a cost-effective intervention. Moreover, because the floor time philosophy and practices are typically woven into

all aspects of a child's daily living experience, this intervention may be considered efficient. However, implementation of the floor time philosophy and structured sessions require a significant emotional investment and time commitment. Therefore, the price of this intervention may vary depending on the needs of each child and family who undertake a floor time approach. The training video *ICDL Training Videotapes on the DIR Model and Floor Time Techniques* (Interdisciplinary Council on Developmental and Learning Disorders, n.d.) is available for \$585.

Method of Evaluating Efficacy of Interventions for Individuals With ASD

Due to the relatively noninvasive, benign nature of floor time, the DIR approach can be evaluated by use of a variety of methods and outcome targets, including strategies used to assess other instructional/behavioral methodologies. We recommend that data be collected and analyzed on the acquisition and maintenance of the six developmental milestones previously noted. We also consider scales such as the Functional Emotional Assessment Scale (FEAS) to be appropriate tools for assessment and evaluation of child progress related to use of this intervention.

Conclusions

Floor time is an intervention designed to assist children in reestablishing the developmental sequence that was interrupted. According to Greenspan (1992), the use of engaging, fun, and intentional play with a dedicated caregiver will help children to develop a sense of self. Though not substantiated by empirical data, evidence by parents and practitioners seems to suggest that floor time holds merit for use with some children with ASD. More studies are needed to validate this intervention and to promote confidence among its consumers.

Rating of Intervention: Limited Supporting Information for Practice

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PLAY-ORIENTED STRATEGIES

Age/Ability Level of Intervention

- Suggested Ages: All ages
- Suggested Diagnostic Groups and Related Characteristics: Moderate to mild ASD, Asperger syndrome, and other developmental disabilities
- Suggested Ability Levels: Moderate cognitive disability to above average intelligence

Description of Intervention

Play is universal, transcending all cultures, ethnic groups, and socioeconomic strata (Wolfberg, 1999). Indeed, children, have been shown to benefit from playing even in such horrific conditions as the bombed-out streets of Sarajevo and during the Holocaust. Accordingly, play is thought to be an essential feature of childhood, giving children an opportunity to engage in fantasy as an attempt to understand and gain mastery of an abstract, adult world (Landreth, 1982). Progressively advanced play behavior has also been linked with the development of cognitive, linguistic, and social savvy (Wolfberg, 1999). Accordingly, impoverished play behavior in children with ASD has been a target of intervention.

There is a difference between play-based interventions and play therapy. *Play therapy* is a specialized, therapeutic relationship between a child and a professional who has received specialized training in traditional play therapy methods (Landreth, 1982). The child enters into a relationship with an adult who becomes symbolic of the child's external world, the avenue from which he or she plays out feelings and perceptions of the world (Landreth, 1982).

In play-based interventions, a therapist establishes specific treatment goals particular to each child. Traditional treatment goals, which are carried out within a therapeutic milieu, are typically not suitable for many children with ASD because of the difficulty they experience in expanding play experiences to the symbolic level (Wolfberg, 1999). Hence, play-oriented strategies are used with children and youth with ASD as opposed to traditional play therapy.

Reportedly to resolve the problems inherent in many play-based interventions, Wolfberg (1999) developed Integrated Play Groups. The model is based on the notion of *guided participation*, a process wherein children participate in culturally valued activities with the support and encouragement of competent peers.

In an Integrated Play Group, children with autism (novice players) participate in play activities with socially competent peers (expert players) while supported by an adult (play group guide). The goal is to facilitate mutually enjoyed and reciprocal play among children while expanding each novice player's social and symbolic play repertoire (Wolfberg, 1999, p. 49).

Wolfberg (1999) offers specific guidelines for observing and interpreting play, including evaluating symbolic and social dimensions of play, communicative functions and means, and play preferences. The Integrated Play Groups model also specifies how to design play environments.

Reported Benefits and Effects of Intervention

Wolfberg (1999) reports that of the three children who participated in her Integrated Play Groups, two mastered the ability to enact various roles in

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play as well as to engage in advanced pretend play. She also reports that all of the children obtained minimal mastery of some symbolic representation in their drawings. Moreover, at follow-up, two of the children had friendships whereas the other had supported peer relationships, and two of the three participated in conventional games and sports (Wolfberg, 1999). In spite of this reported success, it is important to note that there is an extreme paucity of literature to support the efficacy of play-oriented approaches.

<i>Author</i>	<i>N</i>	<i>Setting</i>	<i>Age/Gender</i>	<i>Diagnoses</i>	<i>Outcomes/Findings</i>	<i>Comments</i>
Wolfberg (1999)	3	Naturalistic play setting	9–11 yrs.; 2 males, 1 female	Independent diagnosis of autism	Emerging social relations and symbolic activity through supported peer play	This study was conducted as an ethnographic case study with related forms of qualitative inquiry

Synthesis of How Outcomes Relate to Utilization of Intervention With Individuals With ASD

A striking characteristic common among children and youth with ASD is the inability to naturally participate in play and other social exchange. Thus, interventions that facilitate the development of play and related social skills are obviously needed with students with ASD. However, the efficacy of play-oriented strategies with individuals with ASD has not been established.

Qualifications of Persons Implementing Intervention and How, Where, and When It Can Be Administered

Play-oriented interventions can be implemented in a variety of settings, including homes, schools, hospitals, and outreach facilities. Moreover, contingent upon basic competencies and experience with children and youth with ASD, a variety of professionals may logically be expected to use play-oriented strategies.

Potential Risks of Intervention

As with all intervention options, care should be taken to systematically analyze the appropriateness of specific aspects of play-oriented methods to

ensure they are tailored to meet individual needs. Frequent monitoring of these methods is essential since efficacy has yet to be determined.

Price of Utilizing Intervention

Price is limited to the cost of literature, possible workshops, and personnel time.

Method of Evaluating Efficacy of Intervention for Individuals With ASD

Interventions that are implemented with children and youth with ASD should be based on the individual's needs related to educational, behavioral, social, and emotional goals. Progress toward achieving these goals should be monitored through direct observation assessment to evaluate the effectiveness of play-oriented strategies.

Conclusions

Play-based interventions have a long history in the field of ASD related to deficits and delays in development of appropriate play behavior. Thus, there appears to be a logical role for play-oriented strategies with children and youth with ASD. However, to date, there is little empirical support for the efficacy of these methods.

Rating of Intervention: Promising Practice

References, Resources, and Suggested Readings

References

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PET/ANIMAL THERAPY

Age/Ability Level of Intervention

- Suggested Ages: All ages
- Suggested Diagnostic Groups and Related Characteristics: Severe to mild ASD, Asperger syndrome, and other developmental disabilities
- Suggested Ability Levels: Severe cognitive disability to above average intelligence

Description of Intervention

“Doctors and scientists have known for many years that animals can play a vital role in maintaining the equilibrium of the human mind and body” (Cochrane & Callen, 1992, p. 31). To this end, the use of animals for the purpose of purportedly providing therapeutic benefit to humans has existed in the literature for several decades. According to Levinson (1969), this type of therapy, commonly known as *pet therapy*, is founded on two key premises: (1) “it is easier for a child to project his unacceptable feelings on a pet” (p. 67), and (2) “the pet’s faculty for supplying some of a child’s need for cuddling, companionship and unconditional acceptance” (p. 67). Pet therapy may encompass goals that are therapeutic in nature or emphasize the development of skills related to the care of particular animals.

According to Cochrane and Callen (1992), communication with children who have a variety of disabilities may be positively impacted by allowing the children to interact with animals such as cats, dogs, horses, or dolphins. Moreover, Law and Scott (1995) specifically reported on the benefits of *pet care programs* for all students as well as students with pervasive developmental disorder (PDD) and ASD. According to Law and Scott (1995), involvement with domestic pets enables students with disabilities to reduce anxiety or fear associated with animal contact; develop responsibility through pet-care routines such as feeding, cleaning, and caring for the pet; and improve problem solving relative to the pet-care tasks. Outcomes of pet care programs reportedly include improvements related to self-confidence, receptive and expressive language skills, socialization, and problem-solving skills. Pets typically used for this type of program include hamsters, gerbils, guinea pigs, birds, reptiles, turtles, fish, and rabbits (Law & Scott, 1995).

Since the 1970s, dolphins have been the particular subjects of research investigation related to understanding the effects of animal interaction on human behavior. Because the majority of animal therapy interventions have involved dolphins, we focus our discussion on this specific species. Smith, an educational anthropologist at Florida International University,

has been particularly interested in studying the use of dolphins with persons with autism. Through her studies, Smith posited that children with ASD are essentially relieved of characteristic anxiety and stress through positive interactions with dolphins and may thus subsequently improve communication and learning (Cochrane & Callen, 1992). Smith acknowledged the lack of scientific evidence to support these claims but nonetheless contends that dolphins impact humans in a profound manner. Smith further postulated that *intelligence* and *spontaneous play behavior* may be the distinguishing dolphin features that enhance the therapeutic value of this particular animal (Cochrane & Callen, 1992).

Since the late 1970s, David Nathanson has also been involved in studying dolphins and children with disabilities. His underlying theory of dolphin-assisted therapy suggests that individuals will increase attention because of their desire to interact with dolphins, resulting in improved cognitive performance. Increased motivation and confidence developed through dolphin-assisted therapy purportedly enables individuals to experience increased benefit from companion therapies when included as part of a comprehensive treatment program. Treatment goals typically included in a dolphin-assisted therapy program emphasize improvement of skills related to speech and language, motor coordination, self-care, social interaction, behavior, and eye contact (Dolphin Human Therapy, n.d.).

Several theories have emerged to explain the purported therapeutic effects of dolphin-assisted therapy, specifically the physiological and relational effects. Another theory suggests that dolphins cause therapeutic physiological changes through their specialized use of sonar and echolocation (McKinney, Dustin, & Wolff, 2001). This theory suggests that, similar to music therapy, the whistles and clicks emitted by the dolphin produce changes in an individual's tissue and cell structure. Another theory proposes that dolphins have a profound impact on individuals through their natural spontaneity, happiness, and playful natures, which are said to elicit happiness in individuals (McKinney et al., 2001). Still another theory advances that dolphins are particularly perceptive to the needs of individuals with disabilities and consequently respond to such individuals in a supportive manner (McKinney et al., 2001). Finally, Dobbs (2000) suggested that dolphin therapy is effective in a mystical rather than medical way due to the unconditional love and caring advanced by the dolphin.

Reported Benefits and Effects of Intervention

To date, there are mixed results regarding the efficacy of pet therapy. Anecdotal reports seem to indicate that this intervention

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may be beneficial for some individuals. Specifically, dolphin-assisted therapy has been associated with several psychological and physiological health benefits, including reduction of stress, alleviation of depression, pain prevention or reduction, and increases in T-cell production and endorphin production (thus activating the body's natural healing process and enhancing immune system response) (McKinney et al., 2001).

<i>Author(s)</i>	<i>N</i>	<i>Setting</i>	<i>Age/Gender</i>	<i>Diagnoses</i>	<i>Outcomes/Findings</i>	<i>Comments</i>
Nathanson & de Faria (1993)	8	Dolphin Research Center (Grassy Key, FL)	3 yrs.–8 yrs., 6 mos.; 5 females, 3 males	Mental retardation (4 Down syndrome; 3 cerebral palsy; 1 brain damage)	Subjects displayed improvements in hierarchical cognitive responses when interaction with dolphins was used as compared to the use of favorite toys.	
Nathanson, de Castro, Friend, & McMahon (1997)	47	Dolphins Plus (Key Largo, FL)	2 yrs., 3 mos.–13 yrs., 4 mos.; 20 females, 27 males	Severe disabilities of varying etiologies; 4 with autism	Dolphin Human Therapy achieves positive results more quickly and is also more cost-effective in comparison to long-term conventional therapy.	Marino & Lilienfeld (1998) challenged both methodology and conclusions; they determined that results are unwarranted.
Nathanson (1998)	71	All subjects received 1 or 2 wks. of therapy in 1995 and 1996	Original subject pool (N = 139) included children with > 20 primary diagnoses who were from 8 countries and represented approximately 2,000 therapy sessions	Severe disabilities of varying etiologies	Subjects maintained or improved skills acquired in therapy about 50% of the time even after 12 mos. post-therapy. No difference in long-term effects was found as a function of differences in 3 categories (genetic, brain damage, unknown causes) of etiology. Longer therapy (2 wks.) produced significantly better long-term results than did 1 wk. of the same therapy.	Marino & Lilienfeld (1998) challenged both methodology and conclusions; they determined that results are unwarranted.

Synthesis of How Outcomes Relate to Utilization of Intervention With Individuals With ASD

Although dolphin-assisted therapy has been the subject of several scientific investigations, there is no scientific or empirical validation regarding its efficacy. Research efforts do suggest that for some children with autism, interactions with dolphins have resulted in improved outcomes relating to attention and learning (Nathanson, de Castro, Friend, & McMahon, 1997). Moreover, anecdotal reports from parents and professionals suggest that dolphin-assisted therapy is indeed beneficial for some children with autism.

Qualifications of Persons Implementing Intervention and How, Where, and When It Can Be Administered

Dolphin-assisted therapy is available only at specialized international and national milieu therapy facilities. Persons and programs involved in administering this intervention vary in both expertise and licensure/certification. For instance, programs such as Dolphin Human Therapy deliver treatment via an interdisciplinary team that includes trained and certified therapists, dolphin trainers, and assisting interns (Nathanson, 1998).

Treatment protocol varies according to program and individual goals. Some programs are designed to be recreational in nature, whereas others are designed to be a part of a comprehensive treatment plan. To this end, some programs offer daily swims, and others offer more intensive curricula that may last for several weeks. The following table describes three programs within the United States for treating children with autism and/or other disabilities through dolphin-assisted therapy.

<i>Program/Location</i>	<i>Treatment Format</i>	<i>Typical Treatment Protocol</i>	<i>Cost</i>	<i>Website</i>
Full Circle Programs Clearwater Marine Aquarium (Clearwater, FL)	Poolside/boat	Varies depending on program	\$100 per hour Scholarships are available	www.cmaquarium.org
Dolphin Human Therapy Dolphin Cove (Key Largo, FL)	On-dock and in-water	1x/day, Monday–Friday for 2–4 wks.	Unknown	www.dolphinhumantherapy.com
Island Dolphin Care, Inc. Dolphins Plus (Key Largo, FL)	In-water and classroom activities; daily swim programs (Natural Swim, Structured Swim)	Varies with program	\$100–\$210 per person, depending on program type Limited scholarships available	www.islanddolphincare.org

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Potential Risks of Intervention

There are no known dangers associated with this intervention beyond normal risks associated with participation in activities that take place in or adjacent to deep water. For this reason, many dolphin therapy programs involving in-water activities caution that swimmers must be comfortable in deep water without the use of flotation devices as a prerequisite to program participation. Other programs require that participants use flotation devices and/or wetsuits regardless of their swimming ability and water experience. Not all programs involve in-water participation by children.

Ethical issues regarding the humane use of dolphins for human therapeutic purposes have contributed to this method's status as a controversial intervention. However, many programs, such as Dolphin Human Therapy, have developed guidelines that include decreased contact time with the dolphins, use of dolphins that are born in captivity rather than capturing wild dolphins for therapy or research purposes, and the use of natural lagoon settings (Nathanson, 1998).

Price of Utilizing Intervention

Dolphin therapy is a costly intervention. Therapy generally runs from \$100 to \$200 per session depending on the nature of the therapeutic program. Scholarships are available through some programs. Interstate travel to dolphin therapy facilities involves additional costs. Moreover, because parents and families are often considered an integral component of the therapy regime, additional costs are incurred for their participation.

Method of Evaluating Efficacy of Interventions for Individuals With ASD

Evaluation of treatment efficacy related to dolphin-assisted therapy should emphasize measurement of social interaction, communication, motivation, and associated outcomes. Further, given the high costs and the lack of substantive empirical support relative to this intervention, readers are encouraged to be prudent in their choice of dolphin therapy as a component of a comprehensive treatment for children with autism. We agree that "this therapy program functions as a complement to, not a replacement for, conventional therapies" (Nathanson, 1998, p. 30). Finally, we strongly suggest that dolphin-assisted therapy not be used as a sole treatment for any child.

Conclusions

Despite a lack of scientific evidence to conclusively link improved behaviors in communication and learning in children with autism, pet and dolphin-assisted therapy continues to be used. Accordingly, more studies are needed to establish the degree to which this is an effective intervention for children with autism.

Rating of Intervention: Limited Supporting Information for Practice

References, Resources, and Suggested Readings

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Resources and Suggested Readings

AquaThought Foundation: www.aquathought.com
Clearwater Marine Aquarium (Full Circle Programs): www.cmaaquarium.org
Dolphin Human Therapy (DHT), Inc.: www.dolphinhumantherapy.com
Dolphin Research Center: www.dolphins.org
Dolphins Plus: www.dolphinsplus.com
International Dolphin Watch: www.idw.org
Island Dolphin Care, Inc.: www.islanddolphinscare.org

RELATIONSHIP DEVELOPMENT INTERVENTION (RDI)

Age/Ability Level of Intervention

- Suggested Ages: Preschool age to adolescence
- Suggested Diagnostic Groups and Related Characteristics: Moderate to mild ASD, Asperger syndrome, and other developmental disabilities
- Suggested Ability Levels: Moderate cognitive disability to above average intelligence

Description of Intervention

The focus of the Relationship Development Intervention (RDI) program is to teach and otherwise improve interpersonal relationship skills among individuals with ASD. An analysis of relationship similarities and differences among nondisabled persons and individuals with autism-related disorders was used to develop the RDI model for improving relationship difficulties commonly experienced by persons with autism. That is, an analysis of the skills used by normally developing children to competently engage in reciprocal emotional relationships with others is used to identify social deficits, and corresponding social objective activities and related interventions are subsequently used to improve social relationships. RDI is described as a program appropriate for use with a range of persons with ASD. Gutstein and Sheely (2002) regard RDI as suitable for individuals from 2 years of age and view it as an intervention “designed for the entire range of Asperger Syndrome, PDD [Pervasive Developmental Disorder], Autism and NLD [Nonverbal Learning Disorder]” (p. 17).

The social skills that are considered to comprise the qualities of socially competent individuals and, thus, the skills that individuals with autism-related disabilities should be taught are defined as follows:

- Enjoyment—companionship interest and display of positive friendship-related emotions
- Referencing—activities and ideas of friends and social acquaintances are reference points for an individual’s behavior
- Social reciprocity—maintaining a give-and-take relationship with others
- Repair—conflict management
- Improvisation and cocreation—creative sharing of perceptions and experiences
- We-go—an awareness of the importance of groups
- Social memories—memories of favorable experiences and shared events

- Maintenance—a willingness to voluntarily participate in relationships independent of rewards
- Alliance—maintaining relationship honesty and integrity in relationships with others
- Acceptance—acceptance of individuals' strengths, weaknesses, and other unique personal qualities

The aforementioned skill areas are used as targets for intervention within a level- and skill-based curriculum. Each of six levels of the curriculum—Novice, Apprentice, Challenger, Voyager, Explorer, and Partner—has four stages that correspond to developmental and related needs of persons with autism-related disabilities.

Reported Benefits and Effects of Intervention

An informal and anecdotal literature base is used to describe and form the RDI model and related activities. The model also draws from an empirical literature base related to the social abilities and disabilities of persons with ASD. However, there is an absence of objective, empirical scientific research to support the efficacy of RDI. Positive anecdotal reports of RDI-assisted social changes are available at www.connectionscenter.com.

Synthesis of How Outcomes Relate to Utilization of Intervention With Individuals With ASD

The RDI program logically identifies social interaction deficits and relationship difficulties as salient elements of autism-related disorders. The approach focuses on analyzing key social skills and social interaction deficits of individuals with ASD. By applying the RDI assessment and planning instrument, the Relationship Development Assessment (RDA), persons developing intervention programs are able to design developmentally suitable individualized relationship development programs using a two-volume RDI activity guide.

Qualifications of Persons Implementing Intervention and How, Where, and When It Can Be Administered

According to Gutstein and Sheely (2002), many of the components of RDI may be applied by parents, youth, and adults with ASD, as well as teachers and therapists. Indeed, the RDI activities can be used in various settings and with support from various individuals associated with individuals with ASD. Moreover, many of the targets identified in the RDI

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program and corresponding intervention activities may be developed into students' individualized education plans (IEPs).

More advanced elements of the RDI program may require the assistance of *relationship coaches* who have been trained to use the RDI model. Clinicians, trained in the RDI approach and skilled in using the RDA assessment measure, are also available for hire from the RDI website (www.connectionscenter.com).

Potential Risks of Intervention

There are no visible or apparent risks or side effects associated with use of the RDI program. However, it would appear that a coordinated effort of parents, family members, persons with autism, and professionals would be recommended. Moreover, having a trained coach and/or clinician with specific training in the RDI method is recommended.

Price of Utilizing Intervention

Costs associated with using the RDI program include the training manuals and assessment instrument, training workshops, videotapes related to using the RDI program, and RDI clinicians and relationship coaches. Costs of these items are provided at the RDI website (www.connectionscenter.com). Thus, the price of using the RDI program may vary significantly, depending on the extent to which support personnel, materials, and training are used.

Method of Evaluating Efficacy of Intervention

Because RDI is designed to enhance social functioning and social relationships, evaluation targets are connected to individuals' social performance. In this regard, Gutstein and Sheely (2002) note that "as you implement our program, you will notice significant changes. The person you are working with will be more fun to be with. She will smile and laugh more. She will dramatically increase the amount of time she spends looking at other people in a meaningful way" (p. 16). Gutstein and Sheely also note that RDI program users should expect to see improved communication and humor; greater peer acceptance; improved collaboration; and related social progress. Connected to these claims, we recommend that these and related social targets be the outcomes by which the utility and efficacy of the RDI program are judged.

Conclusions

RDI is designed to assist persons with ASD improve their social functioning. There is no question that ASD has as a primary characteristic

social interaction and social motivation deficits. Accordingly, RDI addresses an important area related to autism. However, in spite of the face validity for the RDI approach, there is an absence of scientific evidence to support the program, and evidence that RDI is more effective than other social interaction and social support programs is lacking. Thus, there is a glaring need for validation and scientific support of this method.

Rating of Intervention: Limited Supporting Information for Practice

References, Resources, and Suggested Readings

References

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