

The History of Behavioral Treatments in Autism: From the Punitive to the Positive

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Abstract

The behavioral treatments for persons diagnosed with autism have evolved from those that included punitive components to those that are now based upon principles of positive behavior supports. The proceeding document provides an historical overview of relevant behavioral approaches, including the type of approach and the quality of involvement and roles of the family, the professional, and of the individual with autism. In order for practitioners to make informed decisions in deciding the individualized course of treatment for a person with autism, they need to ascertain a good working knowledge of available methods of treatment.

Keywords: autism spectrum disorders, behavioral treatments, interventions – psychosocial/behavioral

The History of Behavioral Treatments in Autism: From the Punitive to the Positive

In 1943, Leo Kanner wrote an article describing eleven children who were withdrawn from others, had unique reactions to loud noises, perseverated on objects and things, demonstrated fits of outbursts or tantrums, and were socially inept to which Kanner blamed cold, aloof parents as the general cause (Kanner, 1943). Since 1943, the field of social and behavioral sciences has come to dispel this theory (Wolff, Narayan, & Moyes, 1988). However, the cause of autism is still unknown and there is no known cure. What is known is that treatments that are based upon Applied Behavioral Analysis (ABA) and Positive Behavioral Supports have been found to be effective in creating positive outcomes in children diagnosed with autism (Volkmar, Lord, Bailey, Schultz, & Klin, 2004). The author will provide a brief outline of behavioral treatment for persons with autism spectrum disorder (ASD); including how these treatments have evolved from those that include punitive components, to current treatments that are now based upon the principles of positive behavior supports.

Brief History on ABA

The name John Watson is often associated with the beginning of the science of ABA. In his 1913 article, “Psychology as the Behaviorist View It,” Watson demonstrated his belief that psychology should look towards observable behavior rather than inward thoughts thus changing the landscape of psychology in the early 20th century. In chapter one of his book, *Psychology from the Standpoint of a Behaviorist* (1919), he starts the chapter with a discussion of predicting human behavior and the use of laws and behavioral principles to control human behavior. Through Watson’s writings is seen the beginnings of ABA. However, it is through the manipulation of these aforementioned laws that the author looks to B. F. Skinner who is credited with organizing and bringing ABA to the forefront of behavioral sciences.

B. F. Skinner built upon the earlier works of Watson. He discussed the need to look beyond the use of Stimulus/Response behavior and he looked more closely at respondent and operant behavior (Skinner, 1938/1966). His influence upon behavioral sciences has continued throughout the 20th and 21st century and many researchers continue to expand upon the use of the principles of ABA. The science of ABA was further defined and clarified by the 1968 journal article by Baer, Wolf, and Risley (1968) that gave researchers the current dimensions of ABA: applied, behavioral, analytic, technological, systematic, effective and generalizable. Throughout the 1960's and 1970's, the use of ABA continued to spread. However, it maintained both the use of aversive and non-aversive treatments up until around the late 1980's early 1990's as seen in the works of Richard Foxx who published two books in 1982 (Foxx, 1982a, 1982b). One book centered on increasing behaviors through the usage positive interventions, which included, using reinforcers, structuring the environment, prompting, and shaping to name just a few (Foxx, 1982b). In his other 1982 book, he focused on decreasing behavior that in some cases involved the usage of physical restraints. The usage of many of these aversive procedures was saved for individuals as he says were "severe cases of self-abusive behavior, and occasionally to treat dangerous or highly disruptive behavior" (p. 51).

Throughout this period of time researchers, the field of behavioral science began to show success in treating multiple behaviors associated with autism as evidenced in the book *Perspectives in Behavior Modification with Deviant Children*, (Lovaas, & Bucher, 1974). The book edited by Lovaas and Bucher includes a number of studies conducted by various authors using behavior modification to treat what they list as childhood maladaptive behaviors. However, Ole Ivar Lovaas, the book's editor, is often credited with ABA's association with autism.

Lovaas and Autism

O. I. Lovaas is the researcher most often associated with the autism/ABA connection. Much of his career was focused on applying ABA principles to treat individuals with autism. However, not all embraced Lovaas's early work because much of the public focus on his early work was on the punitive aspects he incorporated in his studies. For example, in his 1965 study, Lovaas incorporated the use of electric shock to modify children with autism's behavior (Lovaas, & Bucher, 1974). Early studies were typically conducted in laboratories removed from any familial connection. For example, the 1965 Lovaas study was conducted in an experimental room with a connecting observation room and is described as containing metal strips on the floor that were to be utilized in the shock treatment (Lovaas, & Bucher, 1974). Nowhere is there a mention of family or friends, just an impersonal, cold, empty room devoid of any comforts a typical person might expect in today's therapy or research settings. Even behavior of affection as measured by hugs and kisses in this study was elicited by nurses, not family, and the result of a child not responding to a nurse's bid for affection was to receive an electric shock. A study conducted by Lovaas, Koegel, Simmons, and Long (1973) demonstrated their continued use of aversives, for example, the researchers stated, "Many children would work only for food and required an occasional slap on the buttocks if the therapist was to control undesirable interfering behavior" (p. 136). However, the beginnings of the shift to the use of non-aversives is seen during this time period as evidenced in the focus of the Lovaas et al. (1973) study that relied more on the use of primary reinforcers, such as food, than aversives. Additionally, the Lovaas study provides an

example of the beginnings of family involvement. For example, the participants in this study conducted by Lovaas et al. were also in and out of institutions; however, there is mention of family participation with the children who are allowed to go home. The researchers stated that after a child was discharged from the institution their parents had “found a school placement for the child and their (the researchers) involvement became minimal.” However, therapists often visited with the child’s school to discuss a child’s progress with the teacher to provide support for the educator and parents were to call if they had difficulties with their child after release from the institution (Lovaas, Koegel, Simmons, & Long, 1973). Although Lovaas continued the use of both aversive and non-aversive behavioral intervention throughout the 1970’s and the early 1980’s, by the latter part of the 1980’s Lovaas shifted his focus to non-aversive interventions (Smith & Eikeseth, 2011).

Lovaas is widely known and often cited for his original UCLA Young Autism Project Study in which he compared children who received up to forty hours of weekly one-on-one intensive intervention therapy with children who received less than ten hours of weekly one-on-one therapy for over two years (Lovaas, 1987). Lovaas found that children who were in the forty hour a week group did significantly better than the group that received ten hours a week of therapy. Lovaas’s method, which is frequently used today, included one-on-one discrete trials with trainers, however, the use of adhesives is no longer in place today. This was not the first study in which Lovaas looked at using early intensive behavior intervention, also known as EIBI, to help children diagnosed with autism. However, this study popularized the usage of EIBI for children diagnosed with autism and is probably one of the more controversial studies because of the intensity of which Lovaas says that therapy needs to be delivered (Lovaas, 1987). Lovaas continued to be an advocate of EIBI throughout his career. Based on its predecessor, the UCLA Young Autism Project incorporates Lovaas’s 1987’s EIBI. However, in a synthesis of literature based upon UCLA’s Young Autism Project, the review encompasses the changes that evolved over the years in which there is a shift to include families and the studies the researchers synthesized included all or part of the community, clinical, and home locations (Reichow & Wolery, 2009). The shift from cold institutional settings and towards the inclusion of the family as part of the solution is voiced by Lovaas himself in a 1993 article in which he advocated for the field to see “parents as colleagues” and not bystanders to the process of helping their child (p. 626).

Shift in Focus: Positive Behavioral Supports

The use of aversive techniques in ABA lost momentum in the late 1980’s early 1990’s. There is not one defining moment that stands out to mark its decline in usage. However, a seminal article demonstrating the shift from aversive to non-aversive use of behavioral management techniques was the article by Horner et al. (1990) in which the researchers suggest rather than use aversive techniques they advocate what they call “an emerging technology of positive behavioral support” (p. 4). Horner et al. lay out what they believe are nine common themes to set up a positive/non-aversive program of support. The author has included Horner et al.’s list of nine because the list embraces the philosophy of the following interventions as they are implemented today which include: positive lifestyle change, functional analysis, multi-component interventions, manipulation of ecological and setting events, emphasis on antecedent manipulations, teaching adaptive behavior, building environments with effective consequences, minimizing the use of punishers, and distinguishing emergency procedures from proactive

programming. Horner et al. also embraces the viewpoint that an intervention should have social validity. With the shift in focus to positive behavioral supports came the beginning of the concepts of inclusion of children with disabilities into general education classroom, and person-centered planning that looked to the individual needs of the child for direction in planning interventions including academic placement choices (Artesani, & Mallar, 1998; O'Brien, C., O'Brien, & Mount, 1997). Furthermore, during this period society began to support concept of self-determination for individuals with disabilities. During this time occurred the shift in where individuals with disabilities were seen as just that, individuals, who had wants, needs, hopes and dreams and who should be enabled to choose their own path in life to the fullest extent of which they are capable (Wehmeyer, 1999). This shift is seen in many of the current interventions for children with ASD that utilize positive behavioral supports. The author will examine their approaches to the level, type, and quality of involvement and roles of family, the professional/interventionist, and the target individual: TEACCH, Picture Exchange Communication System (PECS), Denver Model, and Pivotal Response Training.

TEACCH

TEACCH which was founded in the early 1970's by Eric Schopler at the University of North Carolina (Siegel, 2003). The TEACCH model focuses on creating an environment based on the needs of the individual students using structured work stations that reinforce learned skills and visual strategies such as visual schedules to incorporate predictability and routines into a child or an adult with autism's day (Mesibov & Shea, 2010; Siegel, 2003). Although TEACCH is based upon the principles of ABA its emphasis is on structure and predictability (Siegel, 2003). The person with autism is the center of the treatment and a plan of action is centered around the individual person. Within the TEACCH methodology, autism is seen as a culture (Mesibov & Shea, 2010a). Professionals and families have to be highly involved in the setting up and maintaining of a child's environment using this approach and professionals highly encourage collaboration with families (Mesibov & Shea, 2010a). The ideology of TEACCH have been shown to be successfully implemented across environments including both self-contained and inclusive classrooms and within a child's home environment (Panerai et al., 2009). The researchers Mesibov and Shea (2010b) stated that the TEACCH system fits into the current evidence-based approaches for individuals with a diagnosis of autism, including ongoing assessment of educational goals. TEACCH creates an environment for the individual learner with a diagnosis of autism to help facilitate transitions and promote independence; however, the TEACCH can be adapted for use in any location with the support of the professionals and families of the child diagnosed with ASD.

Picture Exchange Communication System (PECS)

As describe The Picture Exchange Communication System (PECS) was created by Bondy in the late 1980's and achieved popularity in the early 1990's by the Bondy and Frost team as an augmentative and alternative communication (AAC) system for children who have not developed or use speech functionally (Frost & Bondy, 2002). The approaches features a child being taught the process of finding a communicative partner to engage in reciprocal exchange of functional communication (Bondy & Frost, 1994; Frost & Bondy, 2002). PECS is divided into six phases in which the communicative partner, either a parent or professional, starting with high preferred primary reinforcers, engages and guides the child to interact and to eventually, as they move through the phases, make requests (Bondy & Frost, 1994; Frost & Bondy, 2002).

However, Frost and Bondy (2002) believe the end goal is for students to “demonstrate both responsive and spontaneous commenting” (p. 223). PECS is based on Skinner’s Verbal Behavior (VB) that is based principles of ABA; however, PECS and VB focus is on the acquisition of functional language (Frost & Bondy, 2002). PECS has been found effective in increasing spoken language including spontaneous speech, social-communicative behaviors such as eye contact, and decreases in problem behaviors, such as tantrums (Charlop-Christy, Carpenter, Loc, LeBlanc, & Kellet, 2002; Gordon et al., 2011; Jurgens, Anderson, & Moore, 2009). PECS is for children with autism who are nonverbal or have very little functional communicative skills. It requires teacher and parent involvement to for setup, ongoing child training, and communicative partners need to provide the child with ASD ongoing support. However, it is easy for others to understand and can be used at home, school, and in most community settings.

Denver Model/Early Start Denver Model (ESDM)

The Denver Model was started in 1981 as part of a federally funded preschool program in which families are the center of the decision making team and their child’s learning centers on relationship building through play and social interactions (Hall, 2009; Vismara & Rogers, 2008). The Denver Model is a developmental approach to teaching that incorporates discrete trials, naturalistic teaching, and “sensory social routines” (p. 1008) based on goals and objectives that stem from the needs of the individual child that can be integrated into a self-contained, inclusive or one-on-one environment (Hall, 2009) (Rogers et al., 2006). A variation of this model known as the Early Start Denver Model (ESDM) is a combination of both the Denver Model and Pivotal Response Training (PRT) (Vismara & Rogers, 2008). Created for children as young as twelve months old, the ESDM promotes the Denver Models developmental and relationship building and fuses it with PRT’s ABA principles and discrete trails to deliver teaching lesson (Vismara & Rogers, 2008). Researchers have demonstrated that both the developmentally based Denver Model and its derivative the Early Start Denver Model to be successful in helping young children diagnosed with autism to make gains in adaptive behavior, social and communicative outcomes (Dawson et al., 2009; Rogers & DiLalla, 1991; Vismara & Rogers, 2008). ESDM places parents at the head of the decision-making and parents are an integral part in the intervention process in both the Denver Models and the Early Start Denver Model. Educators are at the center of implementing the treatment, training and providing ongoing support for both the child and the parent. Furthermore, the program is individualized to meet the needs of both families and their children diagnosed with autism.

Pivotal Response Training (PRT)

Pivotal Response Training (PRT) is a method of teaching children with autism focusing on “pivotal responses” within a child’s natural environment that is based on the principles of ABA; however, it is not as structured as discrete trail training that is the typical association made with the mention of ABA (L. K. Koegel, Koegel, Harrower, & Carter, 1999; R. Koegel & Koegel, 2006). Pivotal responses are taught on multiple behaviors simultaneously such as motivation, self-initiation and other deficit areas including social and communicative deficits.(L. K. Koegel, Koegel, Harrower, et al., 1999; L. K. Koegel, Koegel, Shoshan, & McNerney, 1999; R. Koegel & Koegel, 2006) Although PRT program is based on the belief that children with autism need the maximum amount of therapeutic hours as needed to be effective, much of the treatment is delivered within the home, general education class of a school or a naturalistic environment and is ongoing throughout the day (L. K. Koegel, Koegel, Harrower, et al., 1999; R. Koegel &

Koegel, 2006). PRT incorporates parents into the program, including parent training on PRT techniques and parent delivery of treatment at home and in the community (L. K. Koegel, Koegel, Harrower, et al., 1999; R. Koegel & Koegel, 2006). Educators and parents work together to create goals and objectives for the individual child based on an adapted general education curriculum because PRT ultimate goal is the successful inclusion of children with autism into a natural environment which would include inclusion into the general education classroom (R. Koegel & Koegel, 2006). PRT is an evidenced-based technique that has been shown to be effective in increasing motivation, social initiations, reciprocal play and language gains just to name a few (Ingersoll & Schreibman, 2006; L. K. Koegel, Koegel, Shoshan, et al., 1999; Minjarez, Williams, Mercier, & Hardan, 2011; Stahmer, 1999). PRT encompasses family involvement in both the creation and implementation of the intervention. Unlike TEACCH where the environment is arranged based on the student, PRT fits the child into a preexisting environment.

Discussion

The use of the ABA principles is incorporated into many treatments currently used for children with autism. However, although these treatments include the use of ABA principles, they are devoid of earlier aversive practices, such as electric shock therapy. Autism treatments today are more commonly aligned to ABA more aligned with positive behavior supports (Horner et al., 1990). Most current programs for children with autism are multi-faceted, incorporating training for children and parents, and both at home, school, and out in the community. In addition, many programs are individualized to meet the needs of both the child and the family. Furthermore, the concept of self-determination is at the center of planning. Providing support for the child with autism that includes support for their family is an integral practice today in autism treatments. Practitioners and families need to be knowledgeable of the different methods available for children with autism to make informed decisions that are tailored to meet the individual needs of the child and the family unit.

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