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Lovaas Revisited: Should We Have Ever Left?

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Images of people with autism are among the most striking many of us will ever encounter. Sometimes these images are of individuals engaging in intense, violent, and often self-destructive behaviors. Other times these images are powerful because of the amazing skills and accomplishments of individuals who face such difficult challenges in doing things many people consider routine. Regardless of the image we hold of people with autism, our common ground lies in our desire to help such individuals to lead more fulfilling and productive lives. How we accomplish this--as family, friends, and professionals--remains both the obstacle and the challenge.

The past thirty years have seen a myriad of interventions targeted at people with autism. The interventions have typically fallen into one of three "camps"- medical, psychological, or behavioral. All of these types of interventions have had their respective proponents and detractors. All have been thoroughly documented and disseminated, but only a few have been empirically validated as to their effectiveness within the scientific community. One such category of intervention is behavior modification.

Though the application of behavioral principles to the education and "treatment" of people with disabilities is hardly new, the publication of the 1993 book, **Let Me Hear Your Voice**, has pushed behavior modification, specifically early intensive behavioral therapy, once again to the forefront in the education and treatment of people with autism. The question that comes to mind for many is, "Should it have ever left the forefront?" It is clear that the publication of **Let Me Hear Your Voice** has been the catalyst for a new wave of excitement, hope, and controversy surrounding the application of "behavior modification" techniques to young children with autism.

The controversy surrounding **Let Me Hear Your Voice** centers on the concept of "recovery from autism," something which is foreign (and contradictory) to many involved in the lives of people with autism. **Let Me Hear Your Voice** tells the story of the Maurice family and their attempts to find treatments, which will cure their two children of autism. The Maurice family's hopes for the treatment of their children center around their discovery of the 1987 article, "**Behavioral Treatment and Normal Educational and Intellectual Functioning in Young Autistic Children**," published by Ivar Lovaas, a UCLA researcher, in the *Journal of Consulting and Clinical Psychology*. The article describes the outcomes of intensive behavioral interventions for a pre-school aged group of children with autism. In this article and subsequent writings, Lovaas has described three distinct groups as emerging following intensive early intervention: (1) a recoverable group of individuals who, following intervention, no longer demonstrate the characteristics of autism; (2) an intermediate group who make substantial progress but who still demonstrate characteristic autistic behaviors; and (3) a small group of individuals who benefit little from the intervention. The Maurice family focused on "the 47% of subjects (nine out of nineteen)" in the 1987 study, who were described as having recovered from their autistic deficits, and established an intensive home-based therapy program which featured behavior modification therapy based on the principles set forth in Ivar Lovaas's 1981 book **Teaching Developmentally Disabled Children: The Me Book**. The Maurice's report achieving a similar state of recovery for both children.

The Me Book

Teaching Developmentally Disabled Children: The Me Book, published in 1981 by Ivar Lovaas, is the primary source for the application of intensive behavioral therapy for children with autism. The book is a training manual, which sets forth in considerable detail the principles of behavior therapy. The manual consists of seven units: (1) Basic information; (2) Getting ready to learn; (3) Imitation, matching and early language; (4) Basic self-help skills; (5)



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Intermediate language; (6) Advanced language; and (7) Expanding your child's world. Five videotapes supplement the manual.

The Me Book offers "low inference" teaching procedures. That is, the books lays out very specific teaching situations (in instructional task analysis format), including providing information on how to position a child for instruction; how to present stimuli in a basic teaching sequence; how to prompt a response; and how to fade a response prompt. There is an emphasis on preparing the individual for learning (i.e., focusing attention and setting the stage for instruction), building on earlier training sessions, and ensuring maintenance and generalization of skills to new settings.

Home-Based Therapy

Lovaas has a well-established home-based treatment approach for children with autism. Generally, the training consists of between 30 to 40 hours a week of therapy beginning (most often) before a child reaches the age of 3 and ½ years. Therapy usually consists of 4-6 hours per day of 1: 1 training 5-7 days a week for two years. All of these parameters may change based on individual need and even family preference. Typical teaching sessions reportedly last about 2-3 hours (including breaks). Specific instructional tasks last 2-5 minutes followed by short breaks of 1-2 minutes. At the end of each instructional hour, a child is typically given a 15-20 minute break for snacks, free play, and other activities. This allows children the opportunity to practice new skills across non-trained routines and activities.

The Lovaas method is based on operant conditioning. A discrete trial teaching format encompasses the model and consists of three basic parts: (1) presentation of a discriminative stimulus (i.e., a request or command); (2) a response (what the individual does following the request or command); and (3) presentation of a reinforcing stimulus, defined in this program as a reward if correct, saying "no" if incorrect. All teaching situations follow this three-step model and attempt to build simple behaviors into more complex chains of behavior.

A description of a lesson for teaching students to "match to sample" maybe helpful for those unfamiliar with this approach. To teach matching one object with an identical object, the teacher places a cup on a table in front of the child. The teacher then hands the child a second identical cup and instructs the child to "put with the same." If the child responds correctly by placing the cup with its match, the child is reinforced by the teacher. Reinforcement can include food, praise, a hug, or a combination of these. If the child does not respond to the prompt he is physically assisted to make the response and then is reinforced. The physical prompt is removed (faded) over a series of trials until the child responds consistently to the verbal command. Upon mastery of this task, a second pair of objects (e.g., two spoons) is introduced into the situation. The child is then requested to match objects in the presence of a second item on the table, thus beginning to learn to discriminate between the two sets of objects. The same type of response prompting, fading, and reinforcement is utilized until the child consistently discriminates between two sets of items. As the child masters this skill, new objects are introduced. Objects are randomly presented so that the child learns to discriminate between objects and is not inadvertently guided (or misguided) by instructor cues. Matching training continues until the child learns to discriminate among the many potential features of objects (e.g., color, size, shape). Teaching follows in this step-wise manner across 12 different "programs" such as receptive and expressive language, nonverbal imitation, social language, play, and self-help skills.

Providing intensive behavioral therapy generally requires the establishment of a "treatment team." Recommended treatment teams consist of at least three persons who are available for a total of 30-40 hours weekly. The Clinic for Behavioral Treatment of Children at UCLA uses a "pyramid-like" staffing structure where undergraduate students form the base of the pyramid and provide direct therapy experiences. They are supervised by more experienced therapists and graduate students in the Department of Psychology. Therapy experiences occur in the student's homes and include weekly team meetings and a strict focus on data collection and measurement for the purpose of making treatment decisions.

For individuals not receiving services directly from UCLA, the Lovaas training has been made available to families through a network of consultants trained in the Lovaas method. Families receiving these consultation services are expected to



arrange and in most cases lead the treatment team's efforts with consultation support. Families generally rely on recruiting college students on both a paid and volunteer basis. One underlying premise of the Lovaas method is that motivated and dependable individuals can be successfully trained to implement treatment programs with ongoing supervision.

Lovaas notes that treatment is offered to children at such early ages with the goals of reducing maladaptive behaviors (before they become well established) and teaching the child basic language and social play skills. It is a philosophy of this program to first begin intensive therapy at the individual level before expanding treatment into group environments that are typical of school experiences. Lovaas's work consistently suggests that building skills early is critical for successful integration of children with their non-disabled peers. Early treatment is believed to reduce the likelihood the child will require separate educational programs.

Lovaas's work has spanned more than three decades. During this time his approach to behavioral treatment has evolved in the following ways: (1) treatment has moved from clinical to home settings; (2) interventions have begun at an earlier age—preferably before the age of three and as young as eighteen months; (3) the focus has shifted to an emphasis on developing language and social skills which allow for and enhance effective peer integration; and (4) the primary target of the application of behavioral principles is learning new and adaptive behaviors as a means of replacing maladaptive behaviors (rather than only for purposes of behavior management).

Controversy surrounding behavioral therapy

Given that the behavioral procedures described in *The Me Book* are grounded in behavioral science and have a substantial body of research to support them, then why the controversy?

Several aspects of intensive behavioral therapy has emerged as controversial, both in the method of delivery and in the outcomes documented in Lovaas's studies. First the primary controversy over the application of intensive behavioral therapy lies in the use of aversive techniques to reduce maladaptive behaviors. Lovaas has discussed at length in his writings his position regarding the role of aversive stimuli in behavioral therapy. *The Me Book* notes that punishment may be used to establish control both to open a window of opportunity for teaching a child alternative behaviors and as a means to exaggerate correct from incorrect responses. Most often "aversives" take the form of collective verbal feedback, for example a loud "No," though other examples include a spanking or a slap. Though defending the use of physically aversive techniques in situations where a child engages in self-injurious or self-stimulatory behaviors which prevent a child from attending to instruction, Lovaas has contended that aversives constitute no more than 1% of the typical interactions in his therapy programs. The aversives generally are not required after the first few weeks. Interestingly, the Maurice family emphasized that aversive therapy in the form of physical punishment was never used (or even considered) with their children, despite adhering to most other basic tenants of the Lovaas method.*

Another controversial aspect of intensive behavior therapy is the extent to which children are "shaped" into robot-like responders, incapable of fluid interactions, who never seem to generalize beyond the specific responses taught. This is indeed a problematic situation for people with autism, regardless of the therapy or educational experiences provided. It does not seem to be specific to the "Lovaas Method." Lovaas has addressed response specificity extensively in his work and the failure of researchers to identify a set of "pivotal behaviors," which when mastered, open the door to individuals with autism generalizing and expanding their skills. Lovaas notes that many individuals with autism must be taught what they need to know in each environment they encounter, as they often will not generalize without such situation specific instruction. **

The final debate is over the issue of recovery from autism. When autism is viewed as a lifelong disability with an organic basis, then "recovery from autism" becomes a contradictory statement. However, if autism is viewed as a set of behaviors, which can be ameliorated to one degree or another, then recovery from autism is possible. That is, by examining individuals on a case by case basis, judgment can be made about whether the behaviors which constitute autism are no longer present, thereby removing the need for the label of autism. Judgment as to what constitutes



recovery is controversial and has varied across individuals attempting to make this claim, both in their personal judgment and in what measures they claim are useful or acceptable for supporting the claim of recovery. In addition, those who question the possibility of recovery from autism often claim that individuals reportedly recovered were in fact misdiagnosed originally.

Making sense of it all

Regardless of whether one supports or disputes Lovaas's claim regarding the validity of his studies, there is a continual need to scrutinize educational services and "treatments" for people with autism.

One issue to consider is whether there has been an inordinate amount of attention paid to the variable of "recovery from autism," to the extent that it masks and overshadows the utility of behavioral treatment in general. Certainly, there is the possibility of creating false hopes for families, something which has almost become a trademark among interventions applied to people with autism. However, no one has questioned whether the studies conducted by Ivar Lovaas (either the 1987 study or the 1993 follow up study on the same subjects) resulted in substantial positive behavior change. The focus of controversy has been on challenging two specific aspects of the study, specifically the concept of recovery from autism and the means by which subjects were assigned to the experimental treatment and control groups.

Assignment to groups was not completely random but instead quasi-random based on the availability of therapists to conduct the extensive behavioral therapy. This quasi-random assignment of subjects has resulted in some researchers claiming that the two groups were not properly matched and that the experimental group contained individuals destined to achieve better outcomes. Lovaas has discussed at length the assignment of subjects to each group and his attempts to minimize the impact of not being able to randomly assign subjects. Both of these aspects of Lovaas's work have been subjected to considerable professional peer review. Though neither question has been answered to the satisfaction of all, there are several points upon which researchers appear to agree. First the best outcomes for the experimental group were significant and remained so on follow-up several years later. Second, there is considerable agreement that the results obtained in the study were in fact the result of the intensive behavioral intervention. Third, there continues to be a need for replication and extension of this body of information, especially to the individuals who were not among those achieving the best outcomes.

There is emerging information from other research and educational programs documenting substantial behavior change using similar (if not identical) behavioral practices. One important variable emerging from these programs is that younger children, (generally under the age of five) make substantially more progress than older children. This phenomenon has lead researchers to hypothesize that intensive early intervention may actually alter the neurological structure of the brain in the first years of life.

Implications of Behavioral Interventions Parents and Educators

The use of behavioral techniques is not limited to the "Lovaas Method." Applied behavior analysis offers parents and educators a wealth of educative strategies to address problematic behavior as well as to teach appropriate alternative behaviors. Interestingly, advocates of intensive behavioral therapy often note that typical home and educational settings are sufficiently "diluted" and thus are ineffective environments for people with autism. In many settings this is undoubtedly true, especially if parents and teachers who "manage" the environment are not sufficiently attentive to the increased need for structured teaching (and the skills to implement structured teaching) for students with autism. Parents and teachers should be vigilant about ensuring that learning opportunities for child with autism are sufficiently structured and individualized, regardless of whether these students are in general or special education settings. Structured teaching situations are not inherently found in either special education or general education. Systematic learning environments can be developed in any educational, community, or home setting. Parents, educators, and advocates of people with autism would be remiss if they did not acknowledge that early behavioral interventions for



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children with autism are effective and achieve significant results when consistent with principles of learning and when applied by sufficiently trained individuals.

The goal of parents is to choose services for their children that they can be confident will maximize their child's learning and hopes for a productive future. At this point in time there is no question that behavioral interventions offer the best chance for young children with autism to learn and grow to the greatest extent. Also, at this point in time Lovaas has put forth some of the most impressive results among behavioral interventions focused on young children with autism. Whether the work of Lovaas is replicated by other research projects to the satisfaction of the scientific community remains to be seen.

There is a great deal of information available regarding intensive behavioral intervention for young children with autism, which cannot be fully addressed in this article. In addition, there are multiple perspectives on behavioral interventions applied to people with autism.

The intent of this article was to provide an overview about early intensive behavioral intervention based on the work of Ivar Lovaas. The bibliography and resource list which follows will allow interested persons to further access information to learn more about intensive behavioral intervention and how it might benefit individuals they support. Additional information on this topic is available through the Indiana Resource Center for Autism (IRCA).

**Like the Maurice family, we have never used aversives in our ABA/IBI home program with our son. We never even use the word "no". He has benefited enormously from the program despite (or perhaps because of) this. Liz*
**Despite more than 3 yrs of this intervention, my five and a half year old never shows signs of robotic-like behavior. Generalization is built into the program, it is essential that the caregiver generalize all mastered skills into the child's routine. Liz*

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Further information regarding early intensive behavioral treatment can be obtained from the following sources:

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