AN OVERVIEW OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

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I am submitting herewith a field study written by Lisa M. Segarra entitled "An Overview of Attention-Deficit/Hyperactivity Disorder." I have examined the final copy of this field study for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Education Specialist with a major in School Psychology.

Dr. Patti L. Wilson, Major Professor

We have read this field study and recommend its acceptance:

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A Field Study

Presented for the Education Specialist Degree

Austin Peay State University

Lisa M. Segarra

May 2004

DEDICATION

This field study is dedicated to my husband and daughter

Erick and Katelyn Segarra

and parents

Michael and Maria Underwood

who have continuously provided me the encouragement

and will to pursue my educational aspirations.

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Abstract

Attention-Deficit/Hyperactivity Disorder (AD/HD) has been a front-runner in terms of media attention. To many, this is a disorder that involves an abundance of energy that is difficult to control. Information that is less likely to make headlines includes research regarding theoretical underpinnings, specifics regarding motor difficulties, cultural etiology and diagnosis, and how to successfully manage children with these symptoms within the educational system while still abiding by relevant law. This review of the literature will primarily focus on Attention-Deficit/Hyperactivity Disorder, Predominately Hyperactive/Impulsive Type to include current popular treatment. Practical applications are included in the appendix.

An Overview of Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (AD/HD) has been linked to a variety of symptoms and deficits. It is associated with a combination of symptoms involving lack of attention, hyperactivity, and impulsiveness that would be considered "more frequent and severe" than what is developmentally appropriate (American Psychiatric Association, 1994, p.78). According to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), these symptoms typically manifest before the age of seven and must present themselves in at least two settings. Symptoms must provide a clear interference in the person's functioning and not be a secondary symptom to another mental disorder. In addition, people with AD/HD typically have difficulty completing tasks that require sustained attention, and their behaviors may be perceived as overactive or hyperactive. AD/HD appears to be more prevalent in males than females and affects approximately 3% - 5% of school–age children (APA, 1994). Currently, a leading theory in understanding AD/HD is one in which AD/HD is considered to be a disorder of inhibition (Barkley, 1997).

Inhibition is a Primary Deficit in AD/HD

Barkley (1997) reported that AD/HD is a disorder of behavioral inhibition. In his model he regards behavioral inhibition as three abilities: (a) ability to inhibit a prepotent response, (b) stop an ongoing response, and (c) run interference control. A disorder of these three abilities, according to Barkley, would be linked to a breakdown in four specific executive functions: (a) working memory, (b) self-regulation of affect/motivation/and arousal, (c) internalization of speech, and (d) reconstitution - or

analysis of goal directed behavior. Under Barkley's model, a breakdown of these four executive models would lead to further disruption in motor control, fluency, and syntax.

Inhibition Support

A portion of Barkley's model was supported by Konrad, Gauggel, Manz, and Scholl (2000), who demonstrated that children with AD/HD had deficits in inhibitory control and prepotent response inhibition, as compared to controls during a stop task and a delay task. Schachar, Tannock, Marriott, and Logan (1995) also reported a deficit in response inhibition in addition to a deficit in re-engagement of responses after inhibition had taken place in children with AD/HD who had a pervasive condition (pervasive meaning symptoms existing in both home and school, which qualifies as AD/HD under current DSM-IV standards). This disorder of inhibition extends to the area of vision research where it was found that adults with AD/HD had difficulty suppressing unwanted eye movements, or antisaccade conditions (Nigg, Butler, Huang-Pollack, & Henderson, 2002). Brain imaging techniques have also found evidence to support this hypothesis of a deficit in inhibition, particularly in the right frontostriatal hemisphere (Casey et al., 1997).

Prefrontal Cortex and Motor Pathways

A substantial amount of research in the area of AD/HD has focused on the motor pathways, specifically the prefrontal cortex of people with AD/HD (Bayliss & Roodenrys, 2000). The motor circuit is said to project onto the frontal lobe located in the prefrontal cortex (Alexander, Delong, & Strick, 1986), which has been implicated in AD/HD. Rubia et al. (1999a), utilizing a visual motor inhibition task and a delay task,

demonstrated that during an inhibitory task there was less brain activity in the left caudate nucleus and the right inferior prefrontal cortex. Rubia et al. thus hypothesized that the right prefrontal lobe is responsible for motor inhibition. An underactivation of this area, according to Rubia et al., would demonstrate a difficulty with motor inhibition. Rubia et al., with their findings of an underactivated caudate nucleus in AD/HD, furthered support to the theory of a difficulty in motor processing. In addition, Overmeyer et al. (2001) discovered a deficit in gray matter, an important component in processing information, in the basal ganglia or motor circuit, particularly in the right globus pallidus and putamen.

The Caudate Nucleus Plays a Role in Inhibiting Information

The caudate nucleus, located in the basal ganglia or motor areas of the brain, has been reported to play a role in inhibiting motor responses (Rauch & Savage, 1997; Semrud-Clikeman et al., 2000). It has also been implicated in motor execution of visual-motor tracking tasks (Aldridge, Anderson, & Murphy, 1980). In studying the symmetrical differences between the caudate nuclei of boys with AD/HD, some researchers have found significant differences between the caudate regions of boys with AD/HD and control groups. Semrud-Clikeman et al. reported that children with Attention Deficit Disorder with Hyperactivity scored significantly worse on measures of inhibition, particularly those that demonstrated a reversed caudate asymmetry (Left<Right). Semrud-Clikeman et al. compared those that showed this reversed caudate asymmetry to Stroop effect results, a task that measures inhibition. They found that those with this difference in asymmetry demonstrated a poorer performance on the Stroop task than those that did not. Those that performed significantly worse on sustained attention tasks also showed

through MRI analysis to have less white matter in the right hemisphere. Other studies have also found a similar pattern of reversed asymmetry of the caudate or a lack of the regular right>left pattern of asymmetry in participants with a diagnosis of AD/HD (Hynd et al., 1993; Mataro, Garcia-Sanchez, Junque, Estevez-Gonzalez, & Pujol, 1997). Castellanos et al. (1996) also discovered a difference; they did not find the regular decrease in the volume of the caudate that has been typically been found in normal subjects, nor was there found the regular increase in lateral ventricle volume. These findings of brain differences in the caudate nuclei of people with AD/HD lend support to a possible deficit in motor control for people with AD/HD.

Individuals with AD/HD Show Motor Control Impairments

Motor difficulties have been found in studies investigating participants with AD/HD. Rubia, Taylor, Taylor, and Sergeant (1999b) found that male children with hyperactivity demonstrate a deficit in timing their motor output related to synchronization and anticipation of a stimulus and self-regulation. However, this was conflicted in a follow-up study done by Rubia et al. (2001), where a delay in motor timing was not found in participants with AD/HD, only a deficit in motor inhibition. Rubia et al. attributed this to the possibility of this deficit being presented in the context of different motor tasks. In another study, Rubia, Noorloos, Smith, Gunning, & Sergeant (2003) found the same differences in synchronization and anticipation as was found in their earlier 1999 study. These differences in variability were found in both a community and clinical sample. This study also indicated that methylphenidate (Ritalin), a stimulant medication, improves variability in both of the aforementioned difficulties, as well as

increasing the speed in which synchronization could be reached. These motor timing tasks would incorporate another brain region responsible for motor coordination, specifically the cerebellum.

It has been shown that the cerebellum is implicated in the role of motor coordination, as well as input and output to the cerebral cortex (Miall, Reckess, & Imamizu, 2001; Tamada, Miyauchi, Imamizu, Yoshioka, & Kawato, 1999). Castellanos et al. (1996) found that boys with AD/HD had significantly smaller total cerebral volume, a smaller globus pallidus, cerebellum, and right anterior frontal region. In a follow-up study, Berquin et al. (1998) found a 6.1% decrease in cerebral volume, a 3.8% decrease in cerebellar volume, and an 8.5% decrease in vermal volume, as compared with controls. This time, the decrease in cerebellar volume did not maintain significance after total cerebral volume was controlled. However, these findings still remain interesting. In both studies, the overall cerebral volume remained significantly decreased, suggesting a biological difference between boys with AD/HD and boys without the disorder. The finding of a smaller cerebellar vermal volume was also found by Mostofsky, Reiss, Lockhart, and Denckla (1997), lending support to the findings of motor deficits or differences in people with AD/HD.

Cultural Factors

The prevalence of AD/HD appears to be highest in Western culture; however, the DSM-IV attributes this to the differences in "diagnostic practices" within differing cultures as opposed to a difference in frequency (APA, 1994, p. 81). At the time of the Burcham and DeMers (1995) study, there was not any evidence that AD/HD occurred

more frequently in other cultures, ethnic groups or races. However, this was conflicted by a more recent study conducted by Chan, Zhan, and Homer (2002). In their study they utilized the 1996 Medical Expenditure Panel Survey (MEPS) to determine various characteristics about the AD/HD population to include the fact that among Western civilization, white children appear to be most commonly diagnosed with AD/HD. This survey included 5,439 children aged 5 to 20 years old. Out of this sample, 165 children or 3.5% were identified as AD/HD. This matches the DSM-IV estimate of prevalence for this population. Within the various races sampled (white, black, Hispanic, and other), 83.3% of the AD/HD population were considered white. The prevalence of AD/HD in the other households was as follows: black 12.5 %; Hispanic 3.8%, and other 0.4%. These are outstanding statistics considering the fact that Hispanic and black households were considered to actually be oversampled compared to white households.

This phenomenon of a white prevalence in the AD/HD population has been seen in other studies as well, but the reasons behind it continue to baffle the psychological community. In a study conducted with 1,118 Native and non-Native American children, it was determined utilizing parent, teacher, and self-report assessments, that the factor loading of the DSM-IV diagnosis was not culturally sensitive and that a significant difference was not found among the non-Native group as opposed to the Native group (Beiser, Dion, & Gotowiec, 2000). This indicates that the DSM-IV has not been found to be culturally biased in its criteria of AD/HD, an important factor to establish. With this understood, it would stand to reason that differences found within races and cultures would be true differences and not a cultural bias within Western civilization.

A topic for consideration, however, is how culture may play a role in the success of a child with AD/HD. According to Barkley (1990), social and cultural factors may play a role in how readily a family will access services for help, as well as the adjustment of a child diagnosed with AD/HD. With these considerations, it would be pertinent to consider a child's environment. Would an African American child living in a crime ridden neighborhood be more easily diagnosed with AD/HD because they appear inattentive, impulsive, or hyperactive?

Along the same lines, it is important to ensure assessment tools are used that are normed with the same cultural factors. This way a street-wise child is not being assessed based on an assessment tool that was normed in a more rural area; not adhering to these cultural sensitivities could produce labels for children that are not necessarily appropriate. These labels unfortunately may lead to incorrect assumptions on the part of educators, to include the idea that children with AD/HD automatically need to be placed on medication.

AD/HD and the Law

There are essentially two major laws related to acquiring appropriate and non-discriminatory services for children with AD/HD: (1) Section 504 and the complete Americans with Disabilities Act (ADA) and (2) IDEA. ADA ensures non-discrimination for people with disabilities. Section 504 ensures accommodations are made for a person with disabilities to be successful, while IDEA ensures that if a student's abilities are disabled enough to require special education, then further assistance must be provided for a "free and appropriate education," which may include an Individualized Education Plan

(Hardman, Drew & Egan, 2002, p. 23-25). These laws essentially entitle a children with AD/HD to accommodations for their symptomatic behaviors if it is considered necessary to their success within their educational environment. If accommodations are required to the extent of special education, then they may receive services under the category "Other Health Impaired" (Burcham & DeMers, 1995, p.2). In the state of Tennessee this requires a diagnosis on file by a physician which may further the belief that all children with AD/HD need medication. This legislation not only helps parents acquire the services needed for their children, but also helps to legitimize the disorder in the eyes of the public, a disorder that is still yet to be fully understood.

Ritalin & Adderall

One of the leading methods to treat AD/HD aside from a behavior modification approach is medication, with stimulants leading the way. Historically, medicating children has been given bad press; however, when Ritalin (methylphenidate) was first introduced it was labeled a wonder drug. The news media began reporting an abundance of children suddenly being placed on this medication due to teacher recommendations to a child's parents. Now among other drugs, Adderall (d-amphetamine) also appears to be as highly prescribed, and Ritalin now has extended release tablets that will last a child throughout a school day. To give these medications a fair chance, a description of how they work should be examined.

Both drugs are stimulants, so they work by increasing dopamine outside the cell by blocking the dopamine transporter, which in turn inhibits the uptake of dopamine (Barkley, 1998; Giros, Jaber, Jones, Wightman, & Caron, 1996; Volkow, et al. 2001).

The difference between the two drugs is that Ritalin releases dopamine from the regularly used vesicle pools in the neuron, while Adderall causes a release from a newly synthesized pool of dopamine located in the cytoplasm (Parker & Cubeddu, 1986; Russell, Villiers, Sagvolden, Lamm & Taljaard, 1998).

When viewing children accurately diagnosed with AD/HD on stimulants, it becomes clear the benefit these medications have in the beginning stages of treatment. This is further supported by a boy named Theodore in the book, *From Chaos to Calm* (Heininger & Weiss, 2001), who felt as if he did not stand a chance of understanding anyone completely until he was placed on medication. This is not to say, however, that medication is for all children.

Unfortunately, in some states teachers and schools were given the authority to deny a child services if their parents refused to put them on medication, a practice that is hopefully soon changing. An amendment to IDEA called the Child Medication Safety Act was passed by the House of Representatives on May 21, 2003, which would prohibit school personnel from insisting a child must obtain a prescription in order to receive services at school (O'Meara, 2003). If passed by the Senate, this would allow parents to make the decisions as to whether their children take medication or not to curb their behaviors.

Behavior Modification

Another area of focus aside from medication is behavior modification. This is a treatment preferred by many over medication, but requires intense work out of the caregiver and teacher, as well as the child. This approach is a way of establishing more

successful behavior patterns for a person who experiences struggles with his/her current patterns. The main focus of this approach is to redirect children to practice more appropriate behaviors, rather than the ones that are disruptive by providing a clear parenting structure. Heininger & Weiss (2001) discuss their personal and professional experiences in treating and parenting a boy named Theodore who has AD/HD. They stress that consistency must always be maintained, without ever faltering. Expectations and consequences must always be clearly understood, which may mean the help of lists and behavior charts. They stress the importance children being a part of their own disciplinary actions.

A behavior modification approach to AD/HD means parenting with incentives that are attainable and quickly delivered. It means utilizing praise and reinforcers for positive behavior regularly. With this approach, discipline is also quickly delivered and tangible. In a behavior modification approach, a token economy system or a behavior chart is often used to monitor children with AD/HD behaviors. With these systems, children can visually see how they are progressing by the number of stickers on their chart or the number of tokens they have obtained for the day (Heininger & Weiss, 2001).

Behavior modification is a very effective approach when parents are consistent. It requires much more consistent parenting than many other techniques. The slightest deviance from the regular rules established can cause children to regress back to their previous behaviors (Heininger & Weiss, 2001).

Behavior modification is often combined with stimulant medication. This was also the case with Theodore (Heininger & Weiss, 2001). In a study conducted by

Edwards (2002), he discussed the results of a 1999 MTA study that found that medication and a behavioral treatment were significantly better than medication alone or the treatment as usual community approach. Due to these findings, Edwards suggests a comprehensive treatment approach that includes parent training, school interventions, and medication. The parent training provides not only consistency training but also provides a support group for parents who have similar frustrations in dealing with the disruptive behaviors. The school interventions approach ensures that the parents and school are utilizing the same techniques, which again reinforces consistency, as well as provides opportunities for social skills training. The medication will hopefully treat the primary symptoms well enough so that the child can maintain attention long enough to learn from these techniques.

It is relevant to note the importance of social skills training for children with AD/HD. Often children with these impulsive and hyperactive behaviors have difficulties socially amongst their same-age peer group, and they find themselves excluded. Social skills training not only provides help to children with AD/HD who may need practice with these skills, but if practiced in a group, allows an outlet for friendships to be formed.

Other Treatments

It is important to note, however, that behavior modification and medication are not the only treatments. An Adlerian approach may be used (Edwards & Gfroerer, 2001). In this approach Adler's three C's of belonging: "to connect, to feel capable, and to contribute" are the main focus for the child (p. 214).

Along with the Adlerian approach, REBT is also a viable option. McKeegan (1997) discusses utilizing methods to get a boy named Michael with AD/HD to change his self-defeating thoughts. She states that children with AD/HD lack insight "about their own contributions to their emotional upsets" (p.75). She explained that medications may help in treating the primary symptoms of AD/HD; however, they do nothing to alleviate the secondary symptoms, which are as follows: "low frustration tolerance, low self-esteem, social and evaluative anxiety, and depression" (p.81). McKeegan recommends treating these secondary symptoms by reducing the "musts" the child feels they have on themselves and to teach them more rationalized thinking.

Summary

In summary, there are numerous theories regarding the reasons behind symptoms related to AD/HD. Great strides are being made in the area of physiological research, which hopefully in the future will keep people from being incorrectly diagnosed with AD/HD. In terms of academics, the legal system continues to create legislation so children with this disorder may be served fairly and adequately. This attitude of fairness should extend to the area of cultural awareness, particularly when conducting assessments and when practicing any of the clinical treatments available to people with AD/HD. Finally, the number of treatments available to people with AD/HD are numerous and encompass more than just medication. Although medication is indeed helpful in some instances, it is our responsibility as educators to continue to provide information regarding this controversial disorder as well as alternative options for treatment.

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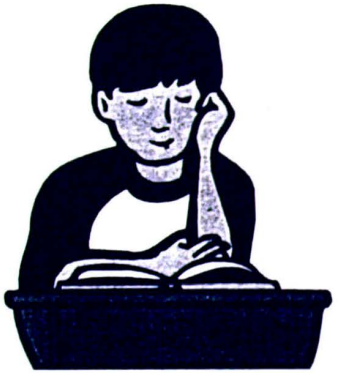
Appendix

Alternative Ways to Say "Good Job"

- Fabulous!
- Way to Go!
- Great Job!
- You got it! Great!
- You're really good at that!
- Fantastic!
- Awesome!
- Wonderful!
- Well done!
- Outstanding!
- You're talented!
- Wow! Sensational!
- Terrific!
- Marvelous!
- Excellent!
- First-rate job!
- This is superb work!
- How were you able to do such a good job?
- You did that so nicely!

Everyone like to hear they have done a good job. Children thrive from their success and like hearing positive statements about themselves and their work. Children with AD/HD especially need this encouragement in order to help them continue with their goals.

Attention-Deficit/Hyperactivity Disorder (AD/HD)



AD/HD is a disorder in which people have extreme difficulties with impulsivity, hyperactivity and maintaining attention. People with AD/HD may experience one or all of these symptoms. Once called Attention Deficit Disorder (ADD), common diagnostic practices now include ADD under the label AD/HD and distinguish the differences by subtype.

This is a **real** disorder. It affects 3-5% of school-age children and recent research indicates it may continue into adulthood. It affects people of various races and cultural backgrounds. The following are a list of common behaviors associated with AD/HD.

Common behaviors:

- Difficulty maintaining attention
- Disorganized
- Forgetful
- Blurting out
- Restless
- Distractible
- Extra energy
- Difficulty establishing friends
- Cannot follow multiple step directions
- Squirms in seat
- Loses things
- Fidgets with hands or feet
- Has difficulty waiting his or her turn
- Does not know what was just said
- Reluctant to start schoolwork

People with AD/HD may also have difficulty making and keeping friends due to their different behaviors. They often do not understand why they act the way they do. They may have difficulty completing tasks or maintaining a job. Dependent on their interaction within their environment, people with AD/HD may experience other mental health difficulties.

AD/HD is a disorder that **can** be treated. People with AD/HD, teachers, and guardians can learn various strategies to help manage symptoms. It is important that flexibility and consistency are always maintained. Positive interactions will produce more success and build self-esteem as opposed to yelling and punishment.

Strategies should always be individualized to the person being helped. Visual reminders help keep people with AD/HD on track when their attention has drifted or they have forgotten the task at hand. It is important that schools and parents work together to maintain consistency within the academic and home environments. Communication is a **must** in order to ensure success. Always let the person know you are on their side. The back of this trifold addresses various techniques for parents, teachers and students in order to help to alleviate some of the symptoms associated with AD/HD.

Parents/Guardians

•Provide reassurance.

•Use visual reminders (i.e. post-its, timers, digital clocks.)

•Set small goals for your child.

•Prepare your child for transitions in advance.

•Maintain routines.

•Make expectations clear.

•Provide opportunities for success, what does your child do well?

•Have your child repeat back what you have said for understanding.

•State things positively-try to avoid the word **not** when you speak.

•Provide organizational materials such as bins, day planners, etc.

•Take care of yourself- there are support groups available

Teachers

•Offer to trade your notes for theirs.

•Use non-verbal prompts.

•State things positively-try to avoid the word **not** when you speak.

•Break multiple-step assignments into smaller tasks.

•Provide low distraction areas for work space.

•Encourage student participation.

•Provide opportunities for the student to move around.

•Prepare the student for transitions.

•Provide opportunities for success, what does your student do well?

•Write key words on the board.

•Provide a second set of books to keep at home.

Students

•YOU ARE NOT ALONE!

•Set small goals for yourself.

•Use organizational materials like pencil pouches and dividers.

•Break up assignments into small parts.

•Restate directions in your own words.

•Highlight and underline key words when you read.

•Pat yourself on the back when you complete any goal!

•Keep your workspace clear of clutter.

•Talk to parents/guardians and teachers about what it's like for you.

•Speak with your guidance counselor when frustrated.

References for Parents

This is a list of valuable references and websites for parent or guardians of children with AD/HD:

Article

Barkley, R. A. (1998). Attention-Deficit Hyperactivity Disorder [Electronic version]. *Scientific American, 279*(3), 66-71.

This article written by Russell Barkley, provides a comprehensive overview of the symptomatic difficulties involved with AD/HD. The article also reviews the different cognitive processes involved in this disorder and how it is believed to be primarily a disorder with a primary difficulty with inhibition.

Book

Heininger, J. E., & Weiss, S. K. (2001). *From chaos to calm: Effective parenting of challenging children with ADHD and other behavioral problems.* New York: Perigee Books.

This book is an excellent resource for parents who have felt like no one understands their struggles raising a child with AD/HD. Written by a mother and the family's behavioral therapist, *From Chaos to Calm*, provides excerpts from the family members to include Theodore, the boy diagnosed with AD/HD.

Website

http://www.parentcenter.com/refcap/learning/specialneeds/40704.html

This link provides information on behavior therapy and parent training for parents of children with AD/HD. It also provides links to other helpful information surrounding this disorder.

References for Teachers

This is a list of valuable references and websites for teachers who are interested in the topic of AD/HD:

Article

Barkley, R. A. (1998). Attention-Deficit Hyperactivity Disorder [Electronic version]. *Scientific American, 279*(3), 66-71.

This article written by Russell Barkley, a leading researcher in the area of AD/HD, provides a comprehensive overview of the symptomatic difficulties involved with AD/HD. The article also reviews the different cognitive processes involved in this disorder and how it is believed to be primarily a disorder with a primary difficulty with inhibition.

Book

Pfiffner, Linda (1996). *All about ADHD: The complete practical guide for classroom teachers*. New York, NY: Scholastic Inc.

A practical guide filled with directly applicable strategies and interventions that can be used in the classroom.

Website

http://www.add.org/content/school/list.htm

This website provides a descriptive list of appropriate accommodations or modifications that can be used in a 504 plan or IEP. This information is also valuable for teachers who do not have a legal obligation to make modifications but have an interest in providing a successful environment for all students. This website also provides links to other informative sites.

Behavior Charts

Behavior charts are an effective way for a child to visually see and be reminded of their responsibilities and successes. There are many forms of behavior charts out there, however, it is important to remember to be positive when creating one. Behavior charts that are written in a positive, 'can do' format, with reinforcers that are foreseeable, have the most positive success. After all, positive charts = positive success. It is also important to remember that consistency is key here, even when it seems as if a chart is not initially working. Old habits are hard to break, new ones are hard to initiate. Give the child a chance to get used to the chart and expectations. It may take a couple of weeks to see progress.

In creating a behavior chart, only a couple target behaviors should be placed on the chart at once. Remember we can not change all behaviors immediately and we do not want to make the child feel like there is too much work, so they do not even try. Along with the couple target behaviors, a few behaviors we know the child can do well should be placed on the chart. This way the child is guaranteed some success. Try to limit the chart to 5 items total. The child should receive visual acknowledgement for completing that task (i.e. token, star, check). If you are working with a younger child who can not read, then place pictures of what should be done on the chart. The acknowledgements should be added up each day and rewarded with a reinforcer. Daily acknowledgments are added up through the week for larger reinforcers. The child should help choose them. Have fun with the chart. It is designed to be positive. Remember to try to avoid the words "don't, didn't, or doesn't", such as "didn't forget to clean the cat litter" or "didn't hit", instead phrase

things positively such as "cleaned cat litter" or "kept hands to myself." Also we may not be able to start with perfection, it may be more along the lines of "kept hands to myself 2 out of 3 times" and increasing to perfection.

Below are a list of possible reinforcers to help get started:

Reinforcers

- Pick dinner for tomorrow night
- Time alone with guardian for 1 hour
- Video at the store
- Video game rental
- Stay up an extra 15 minutes before bedtime
- Prize from the jar of prizes
- Money for treat at school the next day
- Special bedtime story

Reinforcers do not have to cost money, they are basically anything the child enjoys. Ask the child for help deciding on them. You might be amazed what they choose! If you decide to use tokens, poker chips or fake money are often effective, just as long as consistency is kept.

The next page is a sample behavior chart. Remember, have fun!

	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Brushed teeth							
Cleaned cat litter							
Put PJs on without being told							
Gave mom a kiss							
Totals							

Daily:
2/4 = 15 min. later for bedtime
3/4 = prize from jar
4/4 = money for treat at school

Weekly:
16-20 = pick video rental
21-23 = 1 hour alone with mom or dad
24-26 = pick dinner
27-28 = 3 hrs. at favorite entertainment place