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Circle of friends and attitudes toward children with ADHD and other disabilities

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CIRCLE OF FRIENDS AND ATTITUDES TOWARD CHILDREN
WITH ADHD AND OTHER DISABILITIES

A Thesis
Submitted
In Partial Fulfillment
of the Requirements for the Degree
Specialist in Education: School Psychology

Joan E. McCrory
University of Northern Iowa
May 1999
ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is an occurring disorder which affects about one child in every elementary classroom. Children with ADHD are at risk for having poor peer relations. Research has shown that over 50% of children with ADHD have poor peer relations. Studies of various interventions with children who have ADHD and poor peer relationships have yielded mixed results. Psychopharmacological therapy has shown no positive effect on peer interactions. Behavioral interventions; behavior therapy and medication; cognitive-behavioral therapy; and cognitive-behavioral therapy and medication have all found favorable results, although not many combination treatments have been examined for their impact on peer relations of children with ADHD.

There is little research available on the degree to which peer-mediated interventions help improve peer relations of children with ADHD. Using the Circle of Friends intervention, an intact class of 22 third grade students participated in six sessions to determine if children's attitudes toward children with disabilities and children with ADHD characteristics would become more positive due to the intervention. The control group, which did not participate in the intervention, consisted of a portion of an intact class of 12 third grade students. The Attitudes Toward Disabilities Survey (ATD) and the Attitudes Toward ADHD Characteristics Survey (ATA) were developed for this study as a means of specifically measuring attitudes toward children with disabilities and children with ADHD characteristics. These new scales were found to have good internal consistency (Cronbach's alpha = .69 (ATD) and .80 (ATA)).
It was found that the intervention did not significantly impact children's attitudes toward children with disabilities or children with ADHD characteristics. This failure to find treatment effects could have arisen from inadequate sample size, unequal number of subjects in the two groups, poorly designed sessions, unknown classroom differences, or an insufficient treatment period.

When choosing peer-mediated interventions to implement, school psychologists need to carefully research what interventions are effective. Circle of Friends is popular within elementary schools. However, more research is needed on this intervention before school psychologists should place much faith in its efficacy as an intervention to help children with ADHD increase their peer relations.
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May 1999
This Study by: Joan E. McCrory

Entitled: Circle of Friends and Attitudes Toward Children with ADHD and Other Disabilities

has been approved as meeting the thesis requirement for the Degree of Specialist in Education: School Psychology.

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CHAPTER I
INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is estimated to occur in about 3% of the elementary school student population, which is about one child in every classroom (American Psychiatric Association, 1987). This is a disorder that all school psychologists will come in contact with during their professional career. Thus, it is very important that school psychologists understand ADHD in general, the effects the disorder has on a child, and what interventions work in helping children with ADHD. With this understanding, school psychologists will be more able to treat these children adequately.

This disorder has recently been receiving increased public attention due to the later risks associated with this disorder. Students with ADHD are at risk for academic difficulties, antisocial behavior, problems in peer relations, and other difficulties (Barkley, 1989; Barkley, Fischer, Edelbrock, & Smallish, 1990; Fischer, Barkley, Edelbrock, & Smallish, 1990; Ross & Ross, 1982; Whalen & Henker, 1985). In the past, it was generally believed that ADHD was only a problem of childhood. Research is now showing that ADHD symptoms can continue into adolescence and adulthood (Barkley, 1989). With this new information, children with ADHD must be carefully studied to determine how strong the relationship is between ADHD and later risks.

Statement of the Problem

The purpose of this study was to determine the effect of a peer-mediated intervention on classmates’ views of a child with disabilities and children with ADHD characteristics. The study addressed the following questions:
1. Does a "Circle of Friends" intervention change classmate views of children with disabilities?

2. Does a "Circle of Friends" intervention change classmate views of children with ADHD?

Significance of the Study

As mentioned above, ADHD is a disorder that has been extensively studied due to its prevalence in the elementary school student population. Children with ADHD are particularly at risk for having difficulties with their peer relationships. Pelham and Bender (1982) state that over 50% of children with ADHD have poor peer relations. Both children with ADHD and children with poor peer relations are at increased risk for a variety of difficulties including juvenile delinquency, psychopathology, and school drop-out. This increased risk signals the need for developing successful interventions to improve the peer relations of children with ADHD. When examining interventions designed to help children with ADHD develop better peer relations, research findings have not yet been promising. Medication, which can reduce some problematic behaviors associated with ADHD, has not been found to be very beneficial in the area of peer relations (Granger, Whalen, & Henker, 1993; Pelham & Bender, 1982; Wallander, Schroeder, Michelli, & Gualtieri, 1987; Whalen, Henker, Collins, McAuliffe, & Vaux, 1979; Whalen, Henker, Dotemoto, Vaux, & McAuliffe, 1981). In addition, few studies have been conducted in which combination treatments, such as cognitive-behavior modification and medication, have been examined for their impact on the interpersonal transactions of children with ADHD.
Peer-mediated interventions are relatively new and can be defined as putting a socially well-adjusted peer with a child who has poor peer relations to help bring the child into the peer group. There is no current research available on the degree to which peer-mediated interventions help improve the peer relations of children with ADHD. Circle of Friends is a peer-mediated intervention that is gaining popularity in the schools. There is, however, no current research available which supports the effectiveness of this program. Therefore, in this study, the intervention, Circle of Friends, was administered to see if it changed children's attitudes toward children with disabilities and children with ADHD.

**Basic Structure of Study**

The study used a nonequivalent control group design. This design was used because the children could not be randomly assigned to treatment groups. Subjects were 3rd grade students from a midwestern elementary school. Both the treatment group and control group received two pretest and posttest surveys. One survey focused on children's attitudes toward people with disabilities and the other survey focused on children's attitudes toward the characteristics of children with ADHD. After the pretest was administered, the treatment group received the Circle of Friends intervention (see Appendix A). This intervention's focus was to help children become aware of disabilities, help them learn that every child is different in some way, and that it is okay to be friends with someone who may be different from you. The intervention took place for six weeks. The posttest surveys were then administered to both groups, and the statistical procedure, ANCOVA, was used to determine if there was a significant difference between the means of the pretests and posttests at the selected probability level.
Null Hypotheses

1. There is no difference between the Circle of Friends intervention group and the control group in their attitudes toward children with disabilities.

2. There is no difference between the Circle of Friends intervention group and the control group in their attitudes toward children with ADHD characteristics.

Limitations of the Study

1. The attitude scales used were designed under the assumption that they would measure students' views towards disabled people and toward children with ADHD characteristics.

2. All subjects were 3rd grade students. The conclusions of this study may not be representative of elementary school students at all grade levels.

3. The subjects were not randomly assigned to treatment groups. The lack of random assignment may have added sources of invalidity, such as a group by treatment interaction that may not be replicable.

Definition of Terms

Inattention--is when children have trouble sustaining their attention to thought provoking activities and subsequently are easily distracted.

Impulsivity--is when a child acts before thinking and often interrupts others.

Hyperactivity--is when a child has increased motor activity.

Selective attention--is the ability to selectively attend to only certain stimuli out of all the available stimuli.

Sustained attention--is when a child is able to maintain his/her attention.
Rejected—is when children are not accepted by their peers.

Social skill deficit—is when a child does not possess the knowledge or behavioral skills necessary for successful interactions.

Performance skill deficit—is when a child may possess the skillful behavior but may not carry out the behavior frequently enough or in the appropriate situation.

Methylphenidate—is the generic name for Ritalin. This drug is the most commonly used drug with children who have ADHD.

Peer-mediated interventions—in involve putting a socially well-adjusted peer with a child who has ADHD to help bring the child with ADHD into the peer group.

Circle of Friends—is a peer-mediated intervention based on the philosophy that there are several levels of friendships in our lives. In the middle, smallest circle is yourself. The circles get larger as you move farther from the center. Moving outward from yourself, respectively, are your family, friends, associates, and paid associates. Children with disabilities often do not have many people in their family and friends "circles."
CHAPTER II
REVIEW OF LITERATURE

In this chapter, the history of the ADHD label, along with the symptoms, prevalence, consequences, and approaches to the treatment of ADHD are discussed. The social skills of children, both with and without peer relationship problems, general remarks on the social skills of children with ADHD, and interventions aimed at helping children with ADHD with poor peer relationships are also explored.

History of the Attention Deficit Hyperactivity Disorder Label

Our conception of Attention Deficit Hyperactivity Disorder (ADHD) has undergone many revisions throughout history. Wheeler and Carlson (1994) discussed the history of ADHD beginning with the middle 1800s when there were several reports of children with problems of hyperactivity, impulsivity, and shortened attention spans. In 1902, George Still, a clinical psychologist, attempted to conceptualize this disorder through a series of published lectures in England. Still believed that these children had defects in their moral control, and that these defects were biological in origin rather than due to a lack of adequate parenting.

Interest in ADHD began to increase after World War II. Strauss and Lehtinen (1947) reasoned that if inattention, impulsivity and hyperactivity could originate from brain damage, then all children with these behaviors must be brain damaged. The term "minimal brain damage" was then applied to children who displayed these behaviors, often in the absence of medical documentation of actual brain damage.
As beliefs about brain damage as a cause for hyperactivity became less certain, the label for these behavioral symptoms was changed to "minimal brain dysfunction." Eventually, in the Diagnostic and Statistical Manual of Mental Disorders-II (DSM-II) (American Psychiatric Association, 1968), the idea of neurological damage was dropped from the diagnostic terminology and the disorder was referred to as "Hyperactive child syndrome" or "Hyperkinetic Reaction of Childhood."

During the 1970s, evidence suggesting that hyperactive children also had deficits in attention and impulse control caused an influential shift in professional thinking. The American Psychiatric Association re-labeled the disorder as "Attention Deficit Disorder (ADD) (with or without Hyperactivity)" in the DSM-III (American Psychiatric Association, 1980). Investigations supported the idea that ADD with Hyperactivity and ADD without Hyperactivity were dissimilar. Unlike children who were diagnosed with ADD with Hyperactivity, children who were diagnosed as having ADD without Hyperactivity did not have hyperactivity as a central feature of their disorder.

In the 1980s, the disorder was again re-labeled as "Attention Deficit-Hyperactivity Disorder" (ADHD) in the DSM-III-R (American Psychiatric Association, 1987). This re-labeling suggested a reemergence of the role of hyperactivity as a main feature of the disorder (Barkley, 1989). The two disorders were labeled ADHD and Undifferentiated Attention-deficit Disorder (UADD). In DSM-IV (American Psychiatric Association, 1994), there was a return to the DSM-III-type terminology reflecting current beliefs that ADHD and Attention Deficit Disorder (ADD) are in fact dissimilar.
Currently, ADHD is identified as a developmental disorder which can be characterized by inattention, impulsivity, and hyperactivity. These behaviors occur across settings.

There are several core behaviors that have been identified as symptomatic of ADHD in the DSM-IV (American Psychiatric Association, 1994). To make a diagnosis of ADHD, a child needs to exhibit at least six of the behaviors listed below, to an excessive or extreme degree, for a period of at least six months. Many children have symptoms of ADHD and so appear to be ADHD but these behaviors must last in duration, and be frequent and severe in order for a diagnosis of ADHD to be made. It is essential to keep this in mind when applying the diagnostic criteria so that a child is not diagnosed as having ADHD when in fact he/she does not. It is also important to remember that different socio-cultural contexts may affect how people view these symptoms. Different cultures have different tolerance levels for various ADHD symptoms. For example, some Native-American cultures emphasize learning in cooperative groups. A child from these cultures who is impulsive (difficulty waiting his/her turn, interrupts peers, etc.) and/or has other ADHD symptoms may be identified as ADHD while a child exhibiting the same symptoms who is from a fast-paced individualized world may not be identified as ADHD.

The criterion behaviors from DSM-IV (American Psychiatric Association, 1994, pp. 83-85) include:

Inattention:

1. fails to give close attention to details/makes careless mistakes
2. has difficulty sustaining attention to tasks or play
3. does not seem to listen when spoken to directly
4. has difficulty following instructions (e.g., fails to finish schoolwork, chores)
5. has difficulty organizing tasks and activities
6. avoids tasks requiring sustained mental effort (e.g., homework)
7. often loses things needed for home or school (e.g., toys, assignments)
8. is easily distracted
9. is forgetful

Hyperactivity:

1. often fidgets or squirms
2. has difficulty remaining seated
3. runs or climbs excessively
4. has difficulty playing or engaging in leisure activities quietly
5. often talks excessively
6. is often "on the go"

Impulsivity:

1. often blurts out answers to questions
2. has difficulty awaiting turn
3. often interrupts or intrudes on others

Coleman (1996) discussed how a person's tolerance range has a great influence in judging whether or not a child has ADHD. Everyone has preferences for certain types of behavior and dislikes other types of behavior. Teachers have different tolerance ranges for what is acceptable in their classrooms and these tolerance ranges can vary quite widely between teachers. These differences in tolerance ranges may cause teachers with a lower tolerance for hyperactivity, inattention, and impulsive actions to refer a child more readily for an ADHD assessment, whereas teachers with a higher tolerance for such behaviors may not even think of ADHD as a possibility.

Children with ADHD have problems with both selective attention (the ability to selectively attend to only certain stimuli out of all the available stimuli), and with sustained (maintained) attention (Coleman, 1996). Selective attention difficulties interfere with a
child's functioning because the child either is focusing on an inappropriate stimuli and/or is easily distracted when the child is actually paying attention to the correct stimuli.

Sustained attention is also important, especially in the classroom. When children with ADHD are unable to sustain their attention, they may only complete half a worksheet, apparently forgetting the rest, or skip problems on a sheet of math exercises.

Children with ADHD also have increased motor activity which is noticeable in the classroom (Coleman, 1996). Children with ADHD are found to be more restless, fidgety, and active than typical children. Analogies have often been used to describe these children; for example, "a motor that is always running," or "an engine that only has one gear-high."

Impulsivity is also a symptom of children with ADHD. These children often act without thinking (Coleman, 1996). They may blurt out answers before their turn, interrupt others, and have difficulty with turn taking. These behaviors may have an averse effect on interpersonal relationships.

Children with ADHD are more aggressive, disruptive, domineering, noisy, intrusive, and socially rejected than typical children serving as controls. Landau and Moore (1991) reported that children with ADHD have been described as boisterous, annoying, intrusive, irritating, and intractable, all of which impede on their social acceptance.

According to Coleman (1996), children with ADHD demonstrate problems with compliance to parental and teacher commands, display decaying relationships with family members, teachers and peers, and show reductions in academic performance and self-concept. The findings of Lahey and Carlson (1991) revealed that children with
ADHD are suspended from school more frequently than non-ADHD children and are more likely to be placed in classrooms designed to serve children with behavior disorders. Wender (1995) believed that when a child has school problems, such as poor academic achievement, and also displays immaturity, disruptive behavior, or poor peer relationships, ADHD should be considered as a possible causal agent.

**Prevalence**

According to Wheeler and Carlson. (1994), ADHD is a disorder of childhood which affects approximately 3% of elementary students, or about one child in every classroom of 30 students. Estimates vary between 1% and 20% depending on the strictness of the criteria used when defining the disorder and the degree of agreement needed among parents, teachers and professionals. Barkley (1989) also acknowledges that prevalence rates of children with ADHD fluctuate to some degree across cultures.

Approximately 50% of children with ADHD begin to display some ADHD symptoms before the age of four; however, many children are not diagnosed until age six or seven when they are confronted by new classroom rules, demands and parental expectations upon entry in elementary school. The proportion of males versus females who have ADHD varies across studies from 2:1 to 10:1 (Frederick & Olmi, 1994; Sabatino & Vance, 1994). The average most cited for clinical samples is 6:1. Davison and Neale (1994) believe that this wide difference may be a reflection of whether the source of the samples used to establish prevalence was taken from clinic referrals, where boys were more likely to be referred due to their aggressive behaviors in addition to ADHD, or if it was taken from the general population.
Pelham and Bender (1982) have reported that over 50% of ADHD children have problems interacting with peers. This problem can even occur after a brief encounter between an ADHD child and an unfamiliar child. It is for these reasons that ADHD children are often chosen for studies in problematic peer interactions.

Throughout history, the name for ADHD has gone through numerous changes. The disorder, however, remains one that is characterized by inattention, hyperactivity, and impulsivity. It is a disorder that affects many children. This disorder, continues into adolescence and brings with it other difficulties, which are discussed below, that the adolescent with ADHD may have to face.

**Consequences of Attention Deficit Hyperactivity Disorder**

**Psychopathology and Juvenile Delinquency**

Psychopathology is the study of people with psychological and behavioral problems. Ross and Ross (1982) found that, as they grow older, most children with ADHD show difficulties with aggression, defiance, or oppositional behavior. Barkley (1989) reported that children with ADHD who develop these conduct problems were more likely to have problems with maladjustment in later years than those children with ADHD who did not have aggressive behaviors, or only did so to a small degree. Barkley (1989) also reported that when children with ADHD were in their teens, only a small percentage showed symptoms of ADHD, but perhaps as many as 75% of these children (Weiss & Hechtman, 1986) continued to have problems at school, home, or in the community.

Mannuzza et al. (1991) found from their follow-up study that when the subjects previously diagnosed with ADHD as children became adolescents, the most common
diagnoses of a maladaptive nature were antisocial personality disorder, conduct disorder, and drug abuse disorder. These three diagnoses were significantly more prevalent in the hyperactive subjects than in controls. Mannuzza, Klein, Bessler, Molloy, and LaPadula (1993) and Gittleman, Mannuzza, Shenker, and Bonagura (1985) reported similar findings.

Longitudinal studies (Fergusson & Horwood, 1995; Huessy, Metoyer, & Townsend, 1974; Laufer, 1971; Weiss, Hetchman, Perlman, Hopkins, & Wener, 1979) indicate that ADHD is a predictor of later juvenile and adult crime. A major study in this area was performed by Satterfield, Hoppe, and Schell (1982), who reported that the percentage of subjects with ADHD arrested at least once for a serious crime (robbery, burglary, car theft, and assault with a deadly weapon) in the lower, middle, and upper socioeconomic classes was 58%, 36%, and 52% respectively. In comparison, the percentage of control subjects arrested at least once in the lower, middle, and upper socioeconomic classes was 11%, 9%, and 2% respectively. Satterfield et al. (1982) also determined the percentage of subjects with ADHD who had a record of multiple arrests in the lower, middle, and upper socioeconomic classes. These were 45%, 25%, and 28% respectively. In comparison, the percentage of control subjects who had been arrested multiple times were 6%, 0% and 0% respectively. These findings, Satterfield et al. (1982) concluded, suggest a strong relationship between childhood ADHD and later juvenile delinquency.

Mannuzza, Klein, Konig, and Giampino (1989) reported that significantly more adolescent and young adult males who were diagnosed with ADHD as children had been arrested (39%), convicted (28%), and incarcerated (9%) than controls. However, it was
found that ADHD by itself was not associated with arrest history. Instead, it was found that ADHD is a risk factor for later criminality, but only when it is mediated by the development of an antisocial personality disorder (i.e. conduct disorder) in the adolescent years. Other researchers (Mannuzza et al., 1993; Mannuzza et al., 1991; Weiss, Hechtman, Milroy, & Perlman, 1985) have drawn similar conclusions. Wallander (1988) and Weiss and Hechtman (1986) concluded, however, that attention deficit problems in childhood only weakly predict later antisocial behavior. Differences in findings may be due to methodological differences among studies, such as how types of arrest were classified, and whether or not subjects were assessed for antisocial personality disorder. Most studies refer back to Satterfield et al. (1982) as the backbone study in this area when trying to determine if ADHD is a risk factor for later juvenile delinquency.

**Academic Achievement and IQ**

Studies (Barkley et al., 1990; Fischer et al., 1990; Lambert, 1988; Mannuzza et al., 1993; Weiss et al., 1979) have concluded that hyperactive subjects complete fewer years of school than do control subjects. Zentall (1993) proposed that impulsivity was a main factor contributing to the poor educational performance of many hyperactive students. She argued that impulsivity produced academic errors because the child did not wait long enough to consider other alternatives, which resulted in poor multiple-choice performance, poor planning skills, and a failure to read directions.

When looking at the IQs of ADHD children, studies (Fischer et al., 1990; Lambert, Hartsough, Sassone, & Sandoval, 1987; McGee, Partridge, Williams, & Silva, 1991) found that the hyperactive subjects had significantly lower IQs than the control subjects.
Barkley (1990) identified a number of factors that might account for the findings that children with ADHD do more poorly than typical children on intellectual assessments. These factors included differences in test-taking behavior (lack of motivation, inattention), coexisting learning disabilities, and actual differences in intelligence.

Many children with ADHD have problems with adjustment as they grow older and become adults. Thus later risks associated with ADHD (antisocial behavior, academic achievement, etc.) trigger the need for treatments or interventions that can help these children function better at home, in school and in their community.

**Approaches to Treatment**

A variety of interventions are used to help children with ADHD control their impulsivity, hyperactivity, and inattention. Interventions that have some established efficacy are psychopharmacological therapy (medications), behavior therapy, cognitive-behavioral training, and a combination of these treatments.

**Stimulant Medications**

Stimulant medications, such as methylphenidate (Ritalin), pemoline (Cylert), and dextroamphetamine (Dexedrine), are the most frequently used approaches to the alleviation of hyperactive children's attention difficulties (Cunningham, Siegel, & Offord, 1985). According to Barkley (1989), it has been estimated that 60% to 90% of children with ADHD are prescribed stimulants during their school age years, and that between 70-80% of children with ADHD respond positively to stimulants. Stimulant medication is a popular intervention because of quick results in reducing disruptive behavior, while increasing attention and impulse control. Barkley (1989) stated that it is now
hypothesized that stimulants impact behavior by lowering the amount of reinforcement needed to achieve and maintain a desired behavior. The child, therefore, becomes more responsive to reinforcement.

**Behavioral Interventions**

Behavioral interventions have also been used with children who have ADHD. Most improvements from behavioral interventions, however, are short-term. Reasons for this are several: teacher disinterest in continuing the program, inadequacies in the program, and/or loss of reinforcer effectiveness (Coleman, 1996). Behavioral interventions include using positive and negative reinforcement, punishment, and modeling.

Social skill training is also part of behavioral interventions. Guevremont (1990) stated that only a few social skill interventions with hyperactive children have been evaluated. Guevremont and Dumas (1994) argued that children with ADHD who receive this training generally learn about appropriate and inappropriate social behavior, and learn some skill in handling their feelings in order to behave more appropriately.

**Behavioral Interventions and Medication**

The combination of behavioral interventions with medications is a popular form of treatment. This combination has been found to result in both successes and failures in intervention. These mixed results may be due to the way the research was carried out rather than to the treatments. Despite some failures to find success in the combination of behavioral and medication treatments, their combination may be useful in that stimulants are not usually used in the late afternoon and evening, when parents may need behavior management techniques to deal with the symptoms (Barkley, 1989).
Cognitive-Behavioral Interventions

Cognitive-behavioral interventions have also been used with hyperactive children to help achieve a behavioral change and have shown some promise in the treatment of ADHD symptoms (Ervin, Banker, & DuPaul, 1996). These interventions focus on teaching children cognitive strategies for solving academic problems and enhancing interpersonal exchanges. The interventions usually teach children to regulate their own behavior. Examples of cognitive-behavioral interventions include self-instruction training, social problem-solving training, self-monitoring, self-evaluation and self-reinforcement. Abikoff (1985) noted that self-talk and self-monitoring helped children with ADHD in specific learning situations, and in general classroom behaviors.

Cognitive-Behavioral Interventions and Medication

Combinations of cognitive-behavioral interventions with medication have also been used, and have had mixed results. Some studies (Hinshaw, Henker, & Whalen, 1984a; Horn, Chatoor, & Connors, 1983) have found success with combined treatments, while other studies (Brown, Borden, Wynne, Schleser, & Clingerman, 1986; Cohen, Sullivan, Minde, Novak, & Helwig, 1981; Hinshaw, Henker, & Whalen, 1984b) have failed to show positive findings. For example Horn et al. (1983) found that the combination of these two treatments was effective in increasing on-task behavior in class and decreasing teacher ratings of ADHD symptoms. Conversely, Brown et al. (1986) found no benefits of combined drug and cognitive-behavioral interventions with children with ADHD.

A variety of treatments have been found to enhance the academic performances of children with ADHD in school settings. However, many of these children have more than
just behavior problems. They may also have problems with peer relations. It is important, however, to first discuss the social skills of children who do not have peer relationships problems in order to gain the perspective on what helps a child develop good social skills.

Social Skills of Children Without Peer Relationship Problems

Social interaction with peers is thought to be essential to optimal development (Quay & Jarrett, 1989). Peer interaction facilitates cognitive development. This is because children gain knowledge about the world through social exchanges with their peers. Early peer relations are also important for social and emotional development and for later life adjustment.

Peer interaction occurs through a reciprocity involving one's elicitation and another's social response (Quay & Jarrett, 1989). The child's initiation affects the other's response, but the kind of response also affects whether a social interchange will take place and whether the initiator will make future attempts for social exchange with that person. Positive initiations lead to friendly responses, and hostile initiations lead to unfriendly responses. Well-liked children know how to interact positively.

The social skills of normal children can be measured through a variety of ways, as described below. Rubin (1990) argues that past research had led many psychologists to conclude that if children did not have adequate peer relationship experiences, they may be at risk for later maladjustment. These areas of maladjustment include psychopathology, school dropout, and delinquency in adolescence and adulthood. Positive peer relations are important for all children so they can develop perspective-taking skills through peer interaction. A child's peer and friendship relations are the foundation of mutual respect,
cooperation, and interpersonal sensitivity. It is critical that children have these positive peer relations for healthy development to occur. Children with ADHD often have poor peer relations, and it is important that this difficulty be addressed.

**Social Skills of Children With Attention Deficit Hyperactivity Disorder**

**A Cause for Concern**

Concerns about peer relations and later personal adjustment among children with ADHD are often expressed by researchers, parents and teachers. Whalen and Henker (1985) have described several reasons why the peer problems of ADHD children can be cause for concern.

One reason for concern is that these children's troubles are central and pervasive, in that interpersonal difficulties are usually the most problematic behaviors noted by parents (Whalen & Henker, 1985). Another reason for concern is that these "poor" peer relationships tend to be long lasting, recurrent and often escalate throughout the school years. Children with negative reputations tend to maintain these reputations over time, and these negative reputations are likely to increase with age. Negative peer relationships are also important because they are associated with serious problems such as school dropout, juvenile delinquency, job termination, less than honorable discharge from the military, police contacts, schizophrenia, neuroses and other psychiatric impairments in adolescence and adulthood. Finally, research has shown that ADHD children may evoke poor behaviors from those around them. Mash and Johnston (1983) found that sibling pairs, in which only one child was hyperactive, had four times as much negative (angry, noncompliant) behavior as did pairs with two non-ADHD children. Whalen, Henker, and
Dotemoto (1981) found similar results in their study. They also found that teachers tended to be more controlling in their interactions with children with ADHD than with normal children suggesting that the presence of a hyperactive child changes the social relationships in a classroom, and that this change is caused in part by the nature of the teachers' responses to children with ADHD.

Whalen and Henker (1985) have noted that children with ADHD sometimes gravitate toward other children with ADHD, are more likely than their peers to choose friends who are noncompliant, and are more likely to engage in deviant behaviors. If this continues over time, the social environment of children with ADHD may encourage the development of a socially dissonant lifestyle, a lifestyle where there is a lack of agreement between society's rules and norms, and one's actions.

Peer ratings of classmates are more predictive of later adjustment than teacher or parent reports of school achievement (Whalen & Henker, 1985). Teachers may be biased by their knowledge of how the child is doing in school. Teachers and peers also hold different expectations of what are appropriate and inappropriate behaviors. Teachers are also not always present to witness incidents of peer interactions and therefore may not be able to judge accurately the child's level of acceptance among peers. Despite these limitations, teacher ratings should still be considered when predicting later adjustment because teachers are a large and important part of a child's everyday life. In addition to peer ratings, the following section will discuss the many ways to measure peer relationships of children with ADHD.
How to Measure Peer Relationships

Peer relationships can be measured through numerous techniques including interviews, observations, sociometrics and behavior checklists. Multiple measurements are often used when measuring the peer relationships of children with ADHD.

Behavior rating scales and checklists are often used to assess how teachers view the children in their classroom, and how students view their peers in their classroom. These scales or checklists are convenient, can be given to parents, teachers, and children, and can gather information across long time intervals. Behavior rating scales and checklists allow the comparison of children with ADHD against the norms of same-age children to help determine the degree of deviance of the ADHD symptoms.

Behavior checklists have been considered valid indicators of peer relationships if they directly correlate with DSM-IV criteria. There is, however, little known about the internal reliability and validity of most teacher behavioral measures. Parker and Asher (1987) found that there is adequate interrater agreement and test-retest reliability in these measures. However, Meents (1989) argued that behavior rating scales are subjective and fallible.

Rating scales, checklists, observations, sociometrics, and so on, are all used to measure peer relationships and tell us if children are having problems with peers. What they do not tell us is why these children have poor peer relations. The following section discusses the traits of children with ADHD that may lead to poor peer relations.
General Remarks on The Social Skills of Children With Attention Deficit Hyperactivity Disorder

To date, there has only been limited research on interpersonal relationships and the social status of children with ADHD. Studies (DeHaas & Young, 1986; Flicek & Landau, 1985), however, have indicated that children with ADHD are more prone to be rejected by peers in their class. Communication skills are thought to be partly responsible for peers' negative responses to children with ADHD (Frederick & Olmi, 1994). These children communicate less efficiently, request less feedback and disagree more often than other children. Children with ADHD may also experience frustration, and become aggressive because of deficiencies in verbal communication skills. Frederick and Olmi (1994) also noted that, in addition to problems with communication, aggression was another trait that correlated with peer rejection.

The Impact of Aggression on Children with Both Attention Deficit Hyperactivity Disorder and Poor Peer Relations

Milich and Loney (1979) found that excessive hyperactivity, rather than excessive aggression was related to low peer acceptance. These findings are contradictory to Pelham and Bender (1982). One possibility for this difference is that Pelham and Bender (1982) used peer ratings and Milich and Loney (1979) used teacher ratings of peer relationships. This is important because peers and teachers hold different expectations of what are appropriate and inappropriate behaviors. Milich and Loney (1979) also found that the severity of teacher-rated hyperactive symptoms was related to the severity of teacher-perceived peer dislike. Pelham and Bender (1982) argued that the safest conclusion was that hyperactive children, who also show aggression, obtain poor ratings
from peers, especially on items that reflect aggressive behavior. However, less aggressive children with ADHD also appear to be disliked by peers. The reasons for this remain unclear.

Pelham and Bender (1982) investigated aggressiveness in hyperactive children and found, from analyzing sociogram data, that peers believed that children with high levels of either hyperactivity or hyperactivity with aggression (described as offensive) engaged in classroom- and teacher-disturbing behaviors (not sitting still, clowning around, not paying attention, showing off, and being rude to the teacher). These high levels of hyperactivity and aggression resulted in peer dislike. The relationship between the degree of hyperactivity, degree of aggression, and peer ratings of dislike, however, remains unclear.

Whalen and Henker (1985) found that childhood aggression had an impact on the daily lives of children with ADHD. These aggressive children were often disliked, targets of peer aggression, and tended to be excluded from social activities. Pope, Bierman, and Mumma (1989) also studied ADHD and aggression. Results indicated that both ADHD and aggression contributed to peer rejection. However, Pope et al. (1989) also found that ADHD was the main determinant of peer relations, contributing to both low peer acceptance and high peer rejection. It was also concluded that out of the three core behaviors of ADHD, it was the inattentiveness or impulsiveness of children with ADHD that impaired their peer relations and not their motor overactivity. This conclusion was supported by another study, (Sandler et al., 1993), in which data indicated that inattention alone may be a social risk factor. It is important to note that this finding raises the
possibility that children who are unaggressive and nonhyperactive may also encounter social difficulties because of inattention.

The aggression expressed by children with ADHD results in peer dislike. Whether it is actually the aggression, inattention, hyperactivity, or impulsivity, these children have traits that impact their daily lives. An important question, however, remains: Are the poor peer relationships of children with ADHD due to social skill deficits or performance deficits?

Social Skill and Performance Deficits of Children with Attention Deficit Hyperactivity Disorder

There has been little agreement among researchers as to whether children with ADHD have social skill deficits, performance deficits, or both. Some researchers (Grenell, Glass, & Katz, 1987; Guevremont & Dumas, 1994) believe that both social skill and performance deficits have an impact on ADHD, while other researchers (Whalen & Henker, 1985; Wheeler & Carlson, 1994) believe only one of the two deficits impact children with ADHD. A social skill deficit occurs when a child does not possess the knowledge or behavioral skills necessary for successful interactions. In contrast, a performance deficit occurs when a child possesses the skillful behavior but does not carry out the behavior frequently enough or in the appropriate situation.

Whalen and Hender (1985) found no compelling data to support the notion that children with ADHD experience social skill deficits. They claimed that children with ADHD have difficulties when social tasks require generative skills but not when selective processes alone are involved. This finding led them to believe that the social problems of children with ADHD were due to performance or production deficits. That is, children
with ADHD may know how to behave in a social situation, yet do not behave appropriately. Whalen and Henker (1985) found that children with ADHD, if presented with response alternatives, could correctly respond, yet when these children were expected to make up their own response to a similar social situation, problems arose.

Grenell et al. (1987) examined both social skill deficits and performance deficits. They found that children with ADHD had social skill deficits in that they were less companionable (less desirable to work with), more assertive or aggressive, and were more impulsive compared to control children. They also found that children with ADHD had difficulties in knowing how to maintain a relationship and handle interpersonal conflict. These children were also rated by peers as less desirable to work with. It was concluded that children with ADHD had deficits in both their social knowledge and in their performance of social skills.

Similar to the findings of Grenell et al. (1987), Guevremont and Dumas (1994), in a review of literature, described four areas in which children with ADHD had social skill and performance deficits. The first area was high-rate, intrusive overt behavior. Specifically, children with ADHD talked more and displayed more aggressive (argumentative) behavior (Campbell & Paulauskas, 1979; Whalen, Henker, Collins, Finck, & Dotemoto, 1979). More disruptive, controlling and noisy interactions with peers were also evident among children with ADHD than among non-ADHD children. These interactions and nonverbal behaviors were associated with social rejection in childhood (Foster, DeLayer, & Guevremont, 1985).
The second area of difficulty arose from deficient communication and collaboration (Milich & Landau, 1982). Children with ADHD were less responsive to the initiations of non-ADHD peers. Children with ADHD were also less likely to adjust their social communication behaviors to the demands of the situation.

The third area Guevremont and Dumas (1994) examined was social cognitive performance. Early research by Dodge and Newman (1981) revealed that children with ADHD had deficits in social cognitive skills. These skills included being able to problem solve social situations, and being able to think about social situations cognitively as they occur. The children in this study made quick responses without giving attention to relevant social cues (subtle tips), and had selective recall of hostile cues over nonhostile cues. It was concluded that these deficits led to an attributional bias, in which the child with ADHD considers peers be hostile and then when peers do act hostile toward the ADHD child, this belief is confirmed.

The fourth and final area Guevremont and Dumas (1994) considered was how children with ADHD often showed greater degrees of explosive, oppositional and unpredictable behavior. Overreactions to minor inconveniences were common and these children would sometimes appear overly aroused when in stimulating situations (Barkley, 1990).

Wheeler and Carlson (1994), however, obtained findings that differed from Grenell et al. (1987) and the review of literature by Guevremont and Dumas (1994). According to Wheeler and Carlson (1994) performance deficits were easily observed in children with ADHD. The children with ADHD were found to engage in social initiations, displaying social knowledge. However, these children were oftentimes involved in disruptive
behavior with classmates, indicating that they possessed the skillful behavior necessary for successful interaction, but did not carry out the behavior frequently enough or in the appropriate situations.

These contradictory findings may be due to methodological differences among the studies. Different authors may have been looking for different social skills (e.g. Whalen & Henker, 1985) looked at general measures of social skills, whereas Grenell et al. (1987) looked at specific social skills) when conducting their studies. Overall, these studies indicate that children with ADHD either have performance deficits only, or a combination of performance and social skill deficits, and that, currently, there is no final research decision on what deficits children with ADHD exhibit.

Whether it is a social skill deficit in which the child does not possess the behavior skills necessary for successful interaction, or a performance deficit in which the child possess the skillful behavior but does not carry it out in the appropriate situation, children with ADHD have problems with peers. So far, children with ADHD have only been discussed. It is also important to look at what peers think of children with ADHD. This knowledge can help lead to interventions that will help children with ADHD get along better with their peers.

**Typical Peers' Expectations of Children with Attention Deficit Hyperactivity Disorder**

In Landau and Moore (1991), children's expectations about a partner in a cooperative task were manipulated. These investigators paired two normal children together. In order to create an ADHD expectation, one member of the pair was told that he would be working with a child who disrupted the class, talked out of turn, did not sit still, and acted
silly. It was found that this ADHD expectation resulted in less cooperation between children than when no expectations were made. It was also found that children who thought they were working with a child with ADHD were less likely to attribute good characteristics to the child with hypothetical ADHD and were less friendly to the child. Finally, it was found that children who believed they were working with children with ADHD found the task to be more difficult, suggesting that the "normal" child was interacting differently with the child with hypothetical ADHD as a result of the ADHD expectation. This ADHD reputation was then thought by Landau et al. to make children with ADHD more unpopular with their classmates.

Milich, McAninch, and Harris (1992) found similar results. In their study, they brought together 40 unfamiliar boys, none of whom actually had ADHD. Findings revealed that the boys who believed they were working with a child with ADHD participated less in the interactions with the child with perceived ADHD, making the task more difficult for the child with perceived ADHD, thus producing less collaboration in their interactions. The boys were also less friendly toward their partner with perceived ADHD, spent less time talking to their partner, and made their partner work harder. It was concluded by Milich et al. (1992) that even when rejected children learn appropriate social skills, if children have a negative label, such as ADHD, other children may continue to view them as undesirable. It was also concluded that labels may affect how peers of children with ADHD interpret their behavior and interact with them. Once a child with
ADHD is labeled or traits of ADHD are present, the child is likely to need help with peer relations.

Interventions Aimed at Helping Children with Attention Deficit Hyperactivity Disorder with Poor Peer Relationships

There are many interventions that are used to help children with ADHD in general and with their peer relationship problems in particular (Barkley, 1989). As stated below, unfortunately not all these interventions have been found to be helpful for children with ADHD who also have peer relationship problems.

Psychopharmacological Therapy

Granger et al. (1993) described how methylphenidate dramatically reduces the rates of uncontrolled aversive behaviors (immature, overactive, annoying, disruptive). There is little evidence, however, of the medication effects on socially appropriate or positive behaviors (Pelham et al., 1982; Wallander et al., 1987; Whalen, Henker, Collins, Finck, et al., 1979; Whalen et al., 1981). Medication often causes children with ADHD to withdraw from peers, instead of increasing their positive social interaction.

Behavior Therapy

Behavioral interventions have been used to improve peer relationships. Three different treatments were used by Pelham and Bender (1982) to see which would enhance the peer relations of children with ADHD. These treatments included social reinforcement, modeling, and the combination of these two treatments. Results indicated that the reinforcement program had not effect of improving the children's poor peer relations. The modeling program also resulted in no improvement in poor peer relations. However, the combination of the two programs did result in an improvement in peer relationships.
Pelham and Bender (1982) believed that children would not improve their behaviors just because they had been told how to, but instead needed reinforcement to improve and then maintain the improved peer relations.

Guevremont (1990) described a social skill training program for children with ADHD that consisted of teaching these children social entry skills, conversational skills, conflict resolution and problem solving skills, and anger control skills. Based on this social skill training program, Guevremont (1990) concluded that short term skill training programs do not create a lasting change and that long-term programs are essential to creating meaningful behavior change.

Finally, Guevremont and Dumas (1994) used token reinforcement and social skill training in their study. They found that token reinforcement combined with social skill training resulted in a decrease in uncooperative behavior. However, because the two treatments were only used together, Guevremont and Dumas (1994) were not able to determine if one treatment caused the behavior change with the other making no change or having less impact, or if it was actually the combination that caused the behavior change.

**Behavioral Therapy and Medication**

In a study conducted by Pelham and Bender (1982), psychostimulant medication and social skill training were combined. Results showed that the children who received methylphenidate and behavior therapy were rated as improved by teacher ratings and peer nominations. Pelham and Bender (1982) reported that behavior therapy, when combined with methylphenidate had the largest effects on improving peer relationships, as compared
to when these interventions were given separately. Unfortunately, Pelham and Bender (1982) also found, that when the medication was discontinued, the effects disappeared (the children's annoying behavior increased and were again rated negatively by peers).

Cognitive-Behavioral Therapy

Cognitive-behavioral interventions have also been used with hyperactive children, although few address the poor peer relations of children with ADHD. Cognitive-behavioral interventions usually entail a combination of self-talk and problem-solving, and with hyperactive children, are aimed at increasing attention and decreasing impulsivity. Douglas, Parry, Marton, and Garson, (1976) found that modeling, self-verbalization and self-reinforcement, when used to train children with ADHD to cope more effectively and independently in social situation, did result in less peer dislike.

Cognitive-Behavioral Therapy and Medication

Few studies have been focused on the effects of the combination of cognitive-behavior interventions and medication on peer relations of children with ADHD. Hinshaw et al. (1984a) performed a study in which a cognitive-behavioral intervention was combined with medication. The cognitive-behavioral intervention consisted of a self-evaluation procedure (in which the child with ADHD evaluated himself/herself on their behavior toward peers). Results from the study found that medication plus cognitive-behavioral self-evaluation proved to be optimal. It was believed that the methylphenidate significantly enhanced the accuracy of the self-evaluation, which led to better peer relations.
Hinshaw et al. (1984b), in their second study, found somewhat different results. Results from this study indicated that the boys trained in the cognitive-behavioral condition used more coping strategies and displayed better self control than did participants in the control intervention. There was no advantage, however, for the combination of methylphenidate plus cognitive-behavioral intervention.

Peer-Mediated Interventions

Peer-mediated interventions are another way to help improve the peer relations of children with ADHD. These peer-mediated interventions are an alternative to classical social skills training. This type of intervention includes putting a socially well-adjusted peer with the child with ADHD to help bring the child with ADHD into the peer group. This type of intervention is new and no research is currently available on the degree to which peer-mediated interventions help improve the peer relationships of children with ADHD.

C. Sensor (personal communication, 1995) described Circle of Friends as a relatively new peer-mediated intervention program. This program has grown in popularity with school psychologists who use it with children who have disabilities or other difficulties. Thus, this program is not only used for children with ADHD, but for all children who have disabilities. The program involves all the peers in the classroom. It is designed to help peers understand the child who has ADHD or other disabilities. The goals of this program are to increase peers' awareness of many disabilities, provide simulation activities so children can "experience" the disability, improve children's sensitivity toward children with disabilities, and increase children's peer friendship and support skills. An assumption of
the program is that cooperation and equal status of participants is required in Circle of
Friends if peer rejection is to be reduced. Hymel, Wagner, and Butler (1990) have argued
that training peer groups to change their view of children with ADHD can help peer
relations of children with ADHD.

C. Sensor (personal communication, 1995) stated that the philosophy behind Circle of
Friends lies in the idea that there are several levels of friendships in our lives. In the
middle, smallest circle, is yourself. The circles get larger as you move farther from the
center. Moving outward from yourself, respectively, are your family, friends, associates,
and paid associates. When looking at a child with a disability, the child often does not
have many people in their family and friends "circles." Circle of Friends tries to increase
the students' circle of friends and build friendship through knowledge.

C. Sensor (personal communication, 1995) also stated that in building the hyperactive
child's circle of friends, the school psychologist, counselor, or teacher has the whole class
come together to discuss disabilities, such as ADHD, and do an activity about this
disability. Before the first circle of friends gathering, a pretest survey is given to the class
to assess their attitudes toward children with disabilities prior to the intervention. The
school psychologist, counselor or teacher can then work from this survey. At the end of
the sessions (4 weeks to half a year depending on the grade), the school psychologist can
then use the post-intervention attitude survey (the pre and posttest surveys are the same)
to see if children's attitudes about disabilities have changed.

The different interventions described above may help children with ADHD make and
keep friends, possibly reducing the risk for later maladjustment problems. Interventions
with some proven efficacy, such as behavioral therapy and the combination of behavioral therapy and medication need to be continuously refined and researched to make their effects more long-term. Other interventions, such as the cognitive-behavioral techniques, the combination of cognitive-behavioral techniques and medication, and the peer-mediated interventions need more research to determine whether they really do help children with ADHD in their peer relations. Successful, long-term interventions could bring a new life for the child with ADHD.

Summary

Attention Deficit Hyperactivity Disorder affects approximately 3% of elementary students (Wheeler & Carlson, 1994). About half of these children begin to display ADHD symptoms before the age of four; however, many children are not diagnosed until around six years of age.

The disorder has three main symptoms: inattention, impulsivity, and hyperactivity. The DSM-IV has several core behaviors that have been identified as symptoms of ADHD. To make an ADHD diagnosis, a child needs to exhibit at least six of the core behaviors, to an extreme degree, for at least six months.

Children with ADHD are at increased risk for higher juvenile delinquency rates, and incidences of psychopathology. They are also at increased risk for poor academic achievement and a lower IQ. Children who have ADHD are likely to experience at least some of the problems in their lives. Different interventions are used to help modify the behavior of children with ADHD and perhaps reduce some of these risks. These
Interventions included: stimulant medication, behavior therapy, cognitive-behavioral training and a combination of these treatments.

Social interaction is thought to be essential to optimal development (Quay & Jarrett, 1989). The social skills of children with ADHD are of concern because poor peer relations are associated with serious problems such as school dropout, juvenile delinquency, police contact, job termination, schizophrenia, and other psychiatric impairments in adolescence and adulthood (Whalen & Henker, 1985).

Communication skills are thought to be partly responsible for the poor peer relationships experienced by children with ADHD (Frederick & Olmi, 1994). These children communicate less efficiently, request less feedback, and disagree more than other children. Aggression is another trait that correlates with poor peer relations. Children with both ADHD and aggression have been found to be more rejected by peers than children who do not have both ADHD and aggression.

Interventions aimed at helping children with ADHD develop better peer relations have been investigated. Interventions which have been assessed for their impact on the peer relations of children with ADHD are psychopharmacological therapy (medication), behavior therapy, cognitive-behavioral therapy, and a combination of these treatments. There is little evidence that medication enhances socially appropriate or positive behaviors, or peer relationships. The benefits of other interventions appear to be short term.

Peer-mediated interventions are relatively new and there is little research available on the degree to which peer-mediated interventions help improve the peer relations of children with ADHD. One particular peer-mediated intervention, Circle of Friends, is
gaining some popularity among school psychologists, counselors and teachers. This intervention is the focus of the study. By conducting a study which examines the effects of Circle of Friends on children's attitudes toward children with disabilities or ADHD, the findings may either lend some credibility to using this intervention in the schools, or perhaps keep people from jumping on the bandwagon too quickly. It is important that interventions aimed at helping peer relations of children with ADHD are researched and studied. It is through this research that successful interventions can be found.
CHAPTER III

METHODOLOGY

Subjects

The subjects were 3rd grade students ranging in age from eight to nine years old (n = 34) at a midwestern school. Both males and females participated in the study. All subjects were Iowa residents residing in a city of approximately 30,000. The sample was over 90% white middle class. Participation in the study was voluntary and an informed consent was obtained from the parents of all participants (see Appendix B).

Instruments

Attitudes Toward Disabilities Survey (ATD)

All subjects completed the Attitudes Toward Disabilities Survey (ATD) both before and after the Circle of Friends intervention was completed. The ATD was a 25-item, self-report survey designed to assess how participants felt about people with disabilities. Subjects were given statements about disabilities and then asked to indicate their own level of agreement or disagreement with each statement using the choices, "Yes," "No," and "Maybe" (see Appendix C).

The ATD survey was designed for this study because the original scale designed for use with the Circle of Friends intervention was somewhat problematic. The scale did not have established reliability and validity, and every statement on this scale was worded to reflect a positive attitude toward people with disabilities. Thus the scale made it quite clear what attitude was desirable. With the ATD survey, both positive (9) and negative (11) statements about people with disabilities were given. There were also five neutral
statements in the scale that were used as fillers to verify that the children were reading the statements.

When the data were collected, the pre-and posttest surveys were then scored by giving a child two points for a positive response, one point for a maybe, and zero points for a negative response. The neutral statements were thrown out. An increase in the score from the pretest and posttest indicated an improvement in children's attitudes toward children with disabilities. The possible range of scores on the ATD survey, after the neutral statements were eliminated, was between 0 and 40 points. A score of 20 indicated a relatively neutral attitude toward children with disabilities. A score higher than 20 indicated a more positive attitude (i.e., did not think of those children as different, would play with them) toward children with disabilities. A score lower than 20 indicated a more negative attitude (i.e., would not play with them, ideas that these children could not learn) toward children with disabilities.

**Attitudes Toward ADHD Characteristics Survey (ATA)**

All subjects completed the ATA survey both before and after the Circle of Friends intervention. The ATA was a 14-item, self-report survey designed to assess how subjects felt about children who displayed ADHD behavior. This survey was constructed using the DSM-IV criteria for ADHD. Subjects were given statements about children who possessed characteristics of ADHD and then were asked to indicate their own level of agreement or disagreement with each statement, using the choices, "Yes," "No," and "Sometimes" (see Appendix D). With the ATA survey, both positive (seven) and
negative (seven) statements about people with ADHD characteristics were given. The ATA survey was designed for this study because there was no ADHD characteristic survey, based on the DSM-IV criteria for ADHD, that was specifically aimed at measuring children's attitudes toward children with ADHD.

When the data were collected, the pre-and posttest surveys were scored the same as the ATD surveys. A child was given two points for a positive response, one point for a sometimes, and zero points for a negative response. An increase in the score from the pretest to the posttest indicated an improvement in attitude toward children with ADHD characteristics. The possible range of scores on the ATA survey was between 0 and 28 points. A score of 14 indicated a relatively neutral response. A score higher than 14 indicated the child had positive attitudes (i.e., did not get angry when a classmate was always interrupting others) toward children with ADHD characteristics. A score lower than 14 indicated that the child had negative attitudes (i.e., got angry at classmates who were always moving around in their chair) toward children with ADHD characteristics.

Internal consistency was determined for both attitude scales. The ATD posttest (see Appendix C) indicated moderate internal consistency (Cronbach's alpha = .69). The ATA posttest (see Appendix D) indicated strong internal consistency (Cronbach's alpha = .80).

Pilot Study

A pilot study was conducted at a laboratory school with third grade students (n = 13) to identify changes that needed to be made to the scales. On the ATD survey, a child could score between 0 and 60 points. A score of 30 indicated a relatively neutral response. A score greater than 30 indicated the child had positive attitudes toward
children with disabilities. A score less than 30 indicated the child had negative attitudes toward children with disabilities. After the ATD survey was administered, the mean and standard deviation were computed. The mean on the ATD survey was 48.62 and the standard deviation was 6.33. This indicated that these children in the pilot study had positive attitudes toward children with disabilities.

On the ATA survey, a child could score between 0 and 28 points. A score of 14 indicated a relatively neutral response to children with ADHD characteristics. A score higher than 14 indicated that the child had positive attitudes toward children with ADHD characteristics. A score lower than 14 indicated that the child had negative attitudes toward children with ADHD. After the ATA survey was administered, the mean and standard deviation were computed. The mean on the ATA survey was 16.9, with a standard deviation of 3.37. This finding indicated that the children's attitudes were slightly more positive than a neutral attitude toward children with ADHD characteristics.

Findings indicated that the wording on both scales needed to be made more concise, and easier to understand. The ATD survey was shortened from 30 items to 25 items, by eliminating difficult and repetitious items. The answer choices on the ATA survey were changed from "Always," "Sometimes," and "Never," to "Yes," "No," and "Sometimes" to make the scale easier to understand.

Procedure

A nonequivalent control group design was used. This design was used because the children were already in classes and could not be randomly assigned to treatment groups.
The treatment class teacher volunteered to have her group participate in the intervention. Both groups had a child with ADHD in the class. During the testing period an explanation of the study was provided, stressing subject confidentiality. The process of informed consent was then explained, emphasizing that participation was voluntary and that refusal to participate would not affect a student in any way. Some parents of the control subjects did not sign the consent form ($n = 9$). This was believed, by the teacher, to have been due to forgotten consent forms and not due to a refusal to allow their children to participate. The teacher did ask the principal for permission to contact the parents who had not returned the consent forms, but was told by the principal that it was the parents' choice to send back the consent forms and that she should just have the children who returned the consent forms participate in the study. One child in the treatment group refused to participate because his parents felt it would affect him in some way and did homework in the hall when the intervention was taking place. The treatment group consisted of 22 students, while the control group consisted of only 12 students due to the lack of returned consent forms.

The pretests were administered to both groups on the same day. The treatment group then received the Circle of Friends intervention. The control group received only the pre- and posttest surveys, and not the Circle of Friends intervention. The Circle of Friends intervention was conducted by the investigator and took place one day a week for six weeks (see Appendix A). The intervention, Circle of Friends, involved all but one peer in the classroom and was designed to help peers understand children with disabilities. For the purpose of this study, attitudes toward children with disabilities as well as toward children with ADHD were assessed.
Circle of Friends Intervention

**Session one.** The objective for this first session was to get acquainted and discuss the general concepts of disabilities and friendships. After introductions, the game "I Am" was played where each student received a sheet of paper entitled "I AM" with ten lines on it. The students then filled in the lines and each shared parts of their lists. A discussion on disabilities and friendships was then held, stressing the idea that everyone has things they can and can't do. During this session, and all other session, characteristics of ADHD were incorporated into the questions asked to the class.

**Session two.** The objective for the second session was to introduce the philosophy of Circle of Friends, along with the notion that children with disabilities, including ADHD, may have different "circles" than a non-disabled child. The Circle of Friends diagram, drawn on large poster board, was explained and the children had a chance to fill out their own "circles" on the bull's-eye diagram given to them on paper. A circle of a child with a disability was then explained (again shown on a large poster board) and compared with the circle of a non-disabled child. There was then a discussion on the differences and similarities of the circles.

**Session three.** The objective for the third section was to introduce the notion that differences are not bad, and that all people are different in some way. The story *Different is Not Bad, Different is the World: A Book About Disabilities*, by Sally Smith was read. A discussion followed.
Session four. The objective for the fourth session was to recognize that just because people are different does not mean that they are better or worse. This session involved an activity where each child put his/her pencil in a pile after closely examining it. After the pile was mixed up, the children came and picked out their pencil from the pile. This activity focused on the point that there are specific characteristics that distinguish people from one another and that these characteristics do not make the person better or worse.

Session five. The objective for the fifth session was to recognize the effect of labels on relationships. The game "What's Inside" was played. There were cans with homemade labels and a blank price tag on them. Each can was shown to the class, and the class decided how much to pay for the can. The labels were then switched, changing the appealing labels to repulsive ones and visa versa. The class then priced those cans. A discussion followed which focused on the idea that labels do not change what is really inside.

Session six. The objective for this last session was to conclude and review what the students had learned during the past sessions. Each session was briefly reviewed and the class discussed what they had learned from the sessions. After the Circle of Friends sessions were completed, the posttest surveys were administered and scored in the same manner as in the pilot study.

Data Analysis

Means and standard deviations were computed for both the pretest and posttest surveys. The statistical test, ANCOVA, was used to determined whether there was a significant difference between the posttest means at the selected alpha level (.05). ANCOVA was used to help control for pretest differences.
CHAPTER IV
RESULTS AND DATA ANALYSIS

Descriptive Data

Attitudes Toward Disabilities (ATD) Pretest

After the ATD pretest was administered to both groups, means and standard deviations were computed (see Table 1). The control subjects had a mean of 32.1 with a standard deviation of 3.9 on the ATD pretest. The treatment subjects had a mean of 33.7 with a standard deviation of 3.5. There were 40 possible points on this pretest. Both the control group and the treatment group had similar means, which were higher than half the possible points. The groups also had similar standard deviations. This indicated that both groups had similar attitudes toward children with disabilities, before the intervention took place, and that these attitudes were positive.

Table 1

Raw Score Means and Standard Deviations for ATD Pretest

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>12</td>
<td>32.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Treatment</td>
<td>21</td>
<td>33.7</td>
<td>3.5</td>
</tr>
</tbody>
</table>
Attitudes Toward ADHD Characteristics (ATA) Pretest

Means and standard deviations were also computed after the ATA pretest was given to both groups (see Table 2). The mean and standard deviation for control subjects were 12.6 and 3.8, respectively. The treatment subjects had a mean of 12.5 with a standard deviation of 6.3. Both groups had similar means. The treatment group, however, had a larger standard deviation which indicated that there was more variation among the attitudes of treatment group subjects than control group subjects. The total possible points for the ATA pretest were 28. Both groups scored less than half the possible points, indicating slightly negative attitudes toward children possessing ADHD characteristics. Because both groups showed similar pretest means, for both ATD and ATA pretests, it was concluded that there were not major differences in the average attitudes between the two groups before the intervention took place.

Table 2

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>12</td>
<td>12.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Treatment</td>
<td>21</td>
<td>12.5</td>
<td>6.3</td>
</tr>
</tbody>
</table>
After the intervention was completed, a posttest was given to both the control subjects and the treatment subjects. Means and standard deviations were then computed (see Table 3). The control group posttest mean and standard deviation on the ATD posttest was 32.7 and 4.9 respectively. The treatment group posttest mean and standard deviation was 35.2 and 2.5, receptively. It was noted that the mean from the treatment group was only slightly higher than the mean from the control group. Until a test which determined significance was computed (ANCOVA), a tentative interpretation that the difference was not significant (the intervention did not have a significant impact on children's attitudes toward children with disabilities) was made.

Table 3

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>12</td>
<td>32.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Treatment</td>
<td>22</td>
<td>35.2</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Attitudes Toward ADHD Characteristics (ATA) Posttest

The means and standard deviations were also computed for the ATA posttest (see Table 4). The control group posttest mean for the ATA posttest was 11.3, with a standard deviation of 4.0. The treatment group posttest mean and standard deviation was 12.1 and 6.5, respectively. Again, the means between groups were similar, with the treatment group having more variety in their scores (larger SD). As with the ATD posttest, until a test that determined significance was computed (ANCOVA) it was tentatively concluded that there was not a significant change in treatment group attitudes toward children with ADHD characteristics.

Table 4

Raw Score Means and Standard Deviations for ATA Posttest

<table>
<thead>
<tr>
<th>Groups</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>12</td>
<td>11.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Treatment</td>
<td>22</td>
<td>12.1</td>
<td>6.5</td>
</tr>
</tbody>
</table>
Test for Significance

An analysis of covariance (ANCOVA) for both scales was computed, with the pretest as the covariant, to determine if the treatment group differed significantly from the control group following the Circle of Friends intervention. On the ATD scale, the obtained $F(2,30) = 2.46, p \geq .13$. On the ATA scale, the obtained $F(2,30) = .06, p \geq .81$. Thus this analysis revealed that, for both scales, there was no significant treatment effect (see Table 5 and 6).

Table 5

Summary of ANCOVA Results - ATD Survey

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig. of $F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>56.01</td>
<td>1</td>
<td>56.01</td>
<td>4.88</td>
<td>.04</td>
</tr>
<tr>
<td>Main Effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>28.23</td>
<td>1</td>
<td>28.23</td>
<td>2.46</td>
<td>.13</td>
</tr>
<tr>
<td>Explained</td>
<td>106.50</td>
<td>2</td>
<td>53.25</td>
<td>4.64</td>
<td>.02</td>
</tr>
<tr>
<td>Residual</td>
<td>344.47</td>
<td>30</td>
<td>11.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>450.97</td>
<td>32</td>
<td>14.09</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 6

Summary of ANCOVA Results - ATA Survey

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>361.53</td>
<td>1</td>
<td>361.53</td>
<td>17.39</td>
<td>.00</td>
</tr>
<tr>
<td>Main Effect</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Group</td>
<td>1.22</td>
<td>1</td>
<td>1.22</td>
<td>.06</td>
<td>.81</td>
</tr>
<tr>
<td>Explained</td>
<td>362.37</td>
<td>2</td>
<td>181.19</td>
<td>8.71</td>
<td>.00</td>
</tr>
<tr>
<td>Residual</td>
<td>623.81</td>
<td>30</td>
<td>20.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>986.18</td>
<td>32</td>
<td>30.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are several possible explanations for this failure to find significant posttest treatment effects. First, this study had a small number of subjects. There were 12 control subjects and 22 treatment subjects (one subject was sick for the pretest). These numbers were low because only two classrooms were involved in the study. Also, the difference in numbers between groups may have had an impact on these findings. This difference resulted from lack of parental consent, either from intentionally withholding their child from the study, or due to forgetting to sign and return the consent form. These problems may be overcome by increasing the number of participants by including more
classrooms used and allowing for more time for parent to return consent forms. Also, additional consent forms could be sent out after the first deadline for returns had passed.

Second, Circle of Friends does not have a "set" lesson plan to follow. The sessions throughout the intervention were designed by the researcher. Although the researcher had an education background, the researcher had never conducted a social skill group intervention before. The insignificant results may be due to this lack of experience and poorly designed sessions. Sessions may not have emphasized ADHD enough or may not have emphasized the Circle of Friends philosophical ideas enough. Researchers may want to do a pilot study of their sessions before the actual intervention takes place to possibly overcome this problem.

Thirdly, although the means between groups were similar on the pretests, there are other factors that could have affected the intervention. These differences may include: teacher, environment, class characteristics, and number of students. The ANCOVA procedure only equated the groups on the covariate, pretests scores. Finding ways to do a random assignment of subjects to treatment and control could reduce the impact of any extraneous variables.

Finally, the intervention was a short intervention (three hours) spread over a six week period. There was also no intervening follow-ups between sessions. A small intervention, like the one conducted, would have had to have been extremely powerful to elicit an effect. An increase in length and number of sessions could overcome this problem.
In the current study, it was found that the Circle of Friends intervention did not significantly change the attitudes of children toward other children with disabilities or ADHD. Although this study failed to reject the null hypotheses, the two scales developed for this study demonstrated moderate to high levels of internal consistency. The obtained Cronbach alphas were for the ATD survey .69 and .80 for the ATA survey. Researchers who want to refine and replicate this study may find the scales adequate for use in their study. These scales may also be helpful to researchers or school psychologists who wish to determine elementary school students' attitudes toward children with disabilities or ADHD.

At this point, school psychologists should remain reasonably skeptical about the value of the intervention. Additional research is needed to determine if this intervention can have a significant impact on non-disabled children's attitudes and behaviors toward children with disabilities, including children with ADHD. School psychologists also need to reserve judgments about the philosophy and beliefs reported in Circle of Friends (i.e., circles are different for children with disabilities or children with ADHD characteristics). If school psychologists choose not to implement interventions which have been shown through research to help children with ADHD in their peer relations (i.e., behavioral interventions and combination interventions), and instead implement the Circle of Friends intervention, they should be aware of the lack of supporting research. However, if school psychologists only want to make children more aware of children with disabilities and
enhance children's understanding of disabled children, then Circle of Friends may be an intervention of choice.

**Implications**

When diagnosing children with ADHD, the school psychologist must realize that over 50% of these children are likely to have poor peer relations (Pelham & Bender, 1982). With this in mind, after diagnosing a child with ADHD, the school psychologist should assess the child's peer relationships. If the child with ADHD also has poor peer relationships, interventions aimed at improving not only behavior but also peer relations should be introduced. By starting interventions early, the later difficulties that these children are at risk for (i.e., academic difficulties, juvenile delinquency, etc.) may be reduced.

When measuring peer relations, the school psychologist must use reliable and valid methods for assessment. When observing, interrater reliability should be established. It is also important to do observations in multiple settings in order to increase observational accuracy and validity. The two scales used in this study, which have been found to be relatively effective, can be used by school psychologists to examine children's attitudes toward children with disabilities and children with ADHD. These scales could be used to determine the impact of an intervention, as done in this study.

This study has shown that school psychologists need to research the interventions they choose to implement when helping children with ADHD improve their peer relationships. School psychologists also need to use those interventions that have had some proven
success (i.e., behavioral interventions). If school psychologists choose to use other interventions, such as peer-mediated interventions (Circle of Friends), they need to keep in mind that these interventions may help children become more aware of disabilities, but may not change children's attitudes toward children with disabilities or children with ADHD characteristics. One caution is that this awareness of disabilities, in itself, may in fact make children less accepting of children with disabilities or children with ADHD characteristics.

**Future Research**

When looking at the social status of children with ADHD, valuable information may be obtained by analyzing the social skills of socially accepted children with ADHD rather than investigating peer rejection (Frederick & Olmi, 1994). Patterns of establishing friendships, competent communication skills, properly entering and exiting a conversation, and accepting criticism, can be looked at in association with social competence. This information could be useful in the design of treatment approaches to help less socially competent children with ADHD with their social skills.

Although there has been research on the consequences of poor peer relations for children with ADHD, no causal relationship has been established between poor peer relations and juvenile delinquency, IQ, academic achievement, etc. More prospective studies are needed to determine the strength and nature of the relationships between children with ADHD, their peer relations, and later adult maladjustment. These findings could help increase the awareness of how important peer relations are to children with ADHD. With this awareness, early intervention could be implemented to help reduce the likelihood that the child with ADHD would have poor peer relations.
Continued research on the social skill and performance deficits of children with ADHD should be conducted. Mixed results regarding social skill deficits and performance deficits clearly signal the need for further research in order to determine the exact deficits children with ADHD have. This information could help us to better understand why children with ADHD have the trouble they do with peers, and help educators design more effective intervention programs.

Interventions using medicines also need to be further investigated. Although medication reduces aggression, disruption, and noncompliant behaviors in children with ADHD, the social interactions of children with ADHD do not change (Guevremont, 1994). Further research may help to determine why the medications reduce problematic behaviors but do not enhance children's peer relationships. The combination of medication and other treatments do show some positive results, and with continued study, researchers may find other combinations of interventions that help children with ADHD develop and maintain satisfying transactions with their peers.

Finally, social skill interventions with children with ADHD have not received enough research attention, and results have been inconsistent. More attention is needed regarding hyperactive children's generalization of social skills between the home and school. In addition, peer-mediated interventions, such as the one used in this study, are a type of intervention that deserves considerably more research attention. There are currently no peer-mediated interventions with demonstrated effectiveness for children with ADHD who have poor peer relations.
References


APPENDIX A

CIRCLE OF FRIENDS INTERVENTION GUIDE

Session 1:

Objective: To get acquainted and discuss the general concepts of disabilities and friendships.
1. Introduction - get to know the students.
2. Play "I Am" Directions: Give each student a sheet of paper at the top of which is printed I AM . . . followed by spaces about two lines in length numbered from 1 to 10. Ask students to fill in the blanks and then share their answers with the group. A student can be asked to read his/her entire list, or the group can go around the circle reading one item at a time. Other students can ask clarifying questions if they wish.
3. Discuss why I am there.
   What are disabilities? What are the common types? (hearing, vision, mental, physical, learning, emotional or behavioral). What is a friend? What do you do with your friends? What do you like in a friend?
4. Discuss the fact that everybody has things they can and can't do. Even though someone is blind, has a physical impairment, hyper, talks a lot, etc., they may be able to do other things really well.

Session 2:

Objective: Introduce philosophy of Circle of Friends and the notion that children with disabilities, including children with ADHD, may have different circles than a "typical" child.
1. Have a Circle of Friends diagram drawn on a poster and on the chalkboard. Hand out a bull's-eye drawing to each student. Have them fill in the inside circle: people you love the most, live with.
   Second circle: people you consider your good friends.
   Third circle: people who are friends, but not close friends.
   Outside circle: people who are paid to be in your life, or people not in your family who are hired to do things you need (i.e. barber, tutor, teacher, dentist, etc.)
   -Ask someone to share their circle orally and fill the blank one on the board.
3. Draw "typical" circle of a child with a disability. (often these students do not have many people in the second and third circles but have more in the outside circle)
4. Compare the circles:
   "What are the differences between the two circles on the board?"
   "Why might a person with a disability have so few friends?"
   "How would you feel if this was your circle?"
   "How might you act?"
5. Discuss ADHD characteristics of a hypothetical student in the class. Discuss that the way this child behaves is due to the disability and not due to how the child is generally feeling. Explain how these characteristics can be a barrier or wall to making friends.

6. What can we do about the hypothesized child with ADHD and his/her circle? What advice would the children give to grown-ups who were concerned that the child didn't have many friends? Could students share part of their circles?

Session 3:
Objective: Introduce that differences are not bad, and that all people are different in some way.

1. Read the story Different is Not Bad, Different if the World: A Book About Disabilities, by Sally Smith. This book illustrates the many differences that encompass the societies and cultures that make up our world.

2. Questions to ask from the book include:
   1. What are some of the differences that are talked about in this book?
   2. What did the book say about the differences that people present?
   3. If someone is constantly moving around and interrupting people, is this bad?
   4. Can a person who has is different (i.e. hyper, doesn't pay attention, blurts out answers, etc.) grow up and be successful in their jobs like other people?
   5. Who do you know that is different? How?

Session 4:
Objective: To recognize that just because people are different does not mean that they are better or worse.

1. Just Different Activity
   Have students get out a pencil, carefully examine it, and put it into a pile in the front of the room. The pencil pile is then mixed up. Each students then comes up individually and tries to pick out the pencil that belongs to him/her.

2. Discussion questions:
   1. How many of you were able to find your own pencil without much difficulty? How did you do this?
   2. What specific characteristics distinguished your pencil from someone else?
   3. Suppose that we had put people instead of pencils in the pile. Are there specific characteristics that distinguish people from one another? Do these differences have to be on the outside?
   4. Just because you or your pencil is different, does that make you or it better than another? Worse?
   5. In what ways are you different from other people?
6. Let's pretend someone talks a lot, is always moving around and forgets things easily. Should we compare ourselves with that person and assume that they are worse just because they are different? Why?
   (Stress that differences are good and that we shouldn't believe that the people are worse than us just because they are different)

7. If someone, who has a disability, interrupts a group, does not always listen, or leaves his/her seat a lot, does this difference make them a bad person?

8. Discuss fairness and equality -sometimes people with disabilities may need different assignments or different materials because that person needs that to be successful.

Session 5:

Objective: To recognize the effects of labels on relationships.

What's Inside?

1. Have 6-8 cans of similar size and shape with the labels removed and replaced with homemade labels (varying with desirability and appeal of the contents). Show each can to the children and read the label. Have the students say how much they would be willing to pay for each. Copy the highest amount taken for each on a small price tag and attach it to the top of the can. Remove the labels and attach new labels, changing appealing labels to repulsive ones and visa versa. Repeat activity.

2. Discussion Questions:
   1. Why did you have higher prices on the cans with labels for good-tasting foods?
   2. Did changing the label on the can change what was really inside?
   3. Sometimes we label people just like we do cans. We might call them "dumb" or "sweet" or "cute." Do you think labels or names we call people really tell us about what is inside?
   4. Do you think those kinds of labels help anyone? Hurt anyone? How?
   5. When someone is different, for example -someone who talks a lot, moves around a lot, interrupts us sometimes, and does not always listen -do labels and names hurt them? Is it okay for them to be different?
   6. Does the appearance on the outside tell us what is on the inside?

Session 6:

Objective: Conclude and review what students have learned during the sessions.

1. What did you learn from these past sessions?

2. How do you plan to treat children who are different from you (review disability list for differences and stress the person may not necessarily look different but may still have a disability).
3. Will it be easy to accept people who have disabilities or who are different from you?
4. What have you learned over these last few weeks that you can use to help you accept and understand children with disabilities?
5. Scenario - Johnny has just started in your class and he has a disability. What are some things that we could do to make sure Johnny has a large second circle (friend circle)?

Dear Parent:

Your child is being asked to participate in a research study that will help determine if the intervention "Circle of Friends" helps students accept and understand children with disabilities, including children who have Attention Deficit Hyperactivity Disorder (ADHD). Your child's attitudes toward children with disabilities and children with ADHD will be measured by surveys administered before and after the intervention. Changes in attitudes will then be looked at. The intervention will involve a general discussion with the class about disabilities, thus allowing for no risks or discomfort to children who may be disabled or have ADHD.

Circle of Friends is widely used within elementary schools and this research will help determine if the program is effective. Children will also be educated on disabilities, helping them gain a tolerance for children with disabilities and allowing for friendships to occur. No names will be used on the surveys. Instead, children will be coded by letter, allowing for confidentiality. Children who have disabilities or ADHD will not be signaled out.

The participation in this project is voluntary, and your child may discontinue participation at any time. Refusal to participate will not affect your child.

Any questions, please contact:
Human Subjects Coordinator,
University of Northern Iowa
(319) 273-2748

Thank you.

Joan E. McCrory -Graduate Student
Educational Psychology and Foundations Department
University of Northern Iowa
(319) 273-2695 (Department)
(319) 273-2236 (Dr. Heston -Advisor)

I am fully aware of the nature and extent of my participation in this project as stated above and the possible risks arising from it. I hereby agree to participate in this project. I acknowledge that I have received a copy of this consent statement.

(Signature of subject or responsible agent)  Date

(Printed name of subject)  (Signature of Investigator)
APPENDIX C

ATTITUDE TOWARDS DISABILITIES (ATD) SURVEY

Instructions:
   a) For each sentence, circle the answer that best describes your feelings.
   b) Choose between "Yes," "No," or "Maybe."
   c) Remember there are no right or wrong answers. Just think about how you feel!

1. I would ask someone who has a disability over to my house to play.  
   Yes  No  Maybe

2. Kids who have disabilities are sadder than other kids.  
   Yes  No  Maybe

3. A person who has a disability cannot get married.  
   Yes  No  Maybe

4. Kids who have a disability can still graduate from high school.  
   Yes  No  Maybe

5. Workers who have disabilities are not as good as other workers.  
   Yes  No  Maybe

6. Kids who listen to their teacher do better in school than kids who do not listen.  
   Yes  No  Maybe

7. I don't want to make friends with someone who has a disability.  
   Yes  No  Maybe

8. People with disabilities feel left out.  
   Yes  No  Maybe

9. People who have disabilities are not good parents.  
   Yes  No  Maybe

10. Kids who play nintendo are not as smart as kids who read.  
    Yes  No  Maybe

11. I would play on the playground with kids who have disabilities.  
    Yes  No  Maybe

12. I feel okay around people who have disabilities  
    Yes  No  Maybe

13. Kids who have disabilities are different from other kids.  
    Yes  No  Maybe
14. People with disabilities should not work with everyone else. Yes No Maybe

15. People who have disabilities can live on their own when they grow up. Yes No Maybe

16. Kids who have disabilities should go to different schools. Yes No Maybe

17. People who are bossy always get what they want. Yes No Maybe

18. Kids who have disabilities should be expected to do many of the same things as other kids, like helping around the house and doing homework. Yes No Maybe

19. Kids who have disabilities are not as smart as other kids. Yes No Maybe

20. People who have disabilities can only have a few friends. Yes No Maybe

21. I think people with disabilities should live with everybody else. Yes No Maybe

22. When kids are upset they should talk over their problems with a friend or adult. Yes No Maybe

23. Students with disabilities get in trouble a lot with their teacher. Yes No Maybe

24. Kids who have a disability can look like everyone else. Yes No Maybe

25. Kids who have a disability can be very smart. Yes No Maybe
APPENDIX D

ATTITUDES TOWARD ADHD CHARACTERISTICS (ATA) SURVEY

Instructions:
a) For each sentence, circle the answer that best describes your feelings.
b) Choose between "Yes," "No," or "Sometimes."
c) Remember there are no right or wrong answers. Just think about how you feel!

1. It makes me angry when a classmate talks so much I never get a turn to talk. Yes  No  Sometimes

2. It frustrates me when someone in class is always wiggling around in their seat. Yes  No  Sometimes

3. It's no big deal when a classmate is always interrupting others. Yes  No  Sometimes

4. I get mad when classmates always interrupt games we are playing. Yes  No  Sometimes

5. It makes me mad when a classmate never pays attention or listens to the teacher. Yes  No  Sometimes

6. Kids who move around a lot and never sit still don't bother me. Yes  No  Sometimes

7. When someone in class never waits their turn and always buts in, I feel frustrated. Yes  No  Sometimes

8. When a classmate always forgets to bring their book, paper or pencil to an activity, it doesn't bother me. Yes  No  Sometimes

9. When a classmate is always making careless mistakes and rarely finishes school work, it doesn't bother me. Yes  No  Sometimes

10. It's okay when a classmate is always blurting out the answer to the teacher's question. Yes  No  Sometimes

11. I get mad when a classmate never follows the teacher's instructions. Yes  No  Sometimes
12. I get angry when classmates are always moving around in their chair.  
   Yes  No  Sometimes

13. Kids who are always noisy, even during a quiet activity, don't bother me.  
   Yes  No  Sometimes

14. When a classmate is always making a silly mistake, it doesn't bother me.  
   Yes  No  Sometimes