TEACHER BELIEFS ABOUT CHILDREN WITH ATTENTION AND BEHAVIORAL DIFFICULTIES

By

AMANDA M. STINSON

Bachelor of Arts in Psychology
Loyola University
New Orleans, LA
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Dissertation Approved:

Dr. Terry Stinnett

Dissertation Adviser

Dr. Gary Duhon

Dr. Georgette Yetter

Dr. Dale Fuqua

Dr. A. Gordon Emslie

Dean of the Graduate College

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CHAPTER I

INTRODUCTION

Attribution theory may help explain a person's perceptions and beliefs about the world, as well as his or her inferences about causes of behavior. Three explanatory dimensions in this theory are stability, others' controllability, and locus. Attribution theory has often been applied to education, particularly teachers' attributions about student behavior and achievement. Because schools now include children with disabilities in general education, it may be important to examine how teachers perceive the behavior and outcomes for these students. For example, teachers frequently must implement specific interventions, designed to improve student academic or behavioral functioning within the general education classroom and expectations about a child with a disability may affect how willing a teacher is to implement an intervention in the classroom. Students with learning disabilities (Clark, 1997; Rodden-Nord and Shinn, 1992) and student ability/effort and achievement (Georgiou et al., 2002; Graham & Weiner, 1986; Weiner, Graham, & Chandler, 1982; Medway, 1979; Tollefson & Chen, 1988) have been studied, but little research has examined teacher attributions of students with Attention Deficit/Hyperactivity Disorder (AD/HD). It is important to investigate teacher attributions of students with AD/HD, because they are often asked to implement behavioral interventions in the general education classroom.

Attribution theory is related to the concept of Locus of Control. Volumes of research have focused specifically on whether an individual views events as dominated by internally or externally controlled forces. For example, some individuals tend to view events or phenomena as controlled by internal forces, such as their own efforts and skills (Hunt, 1993). Others focus on the external environment out of their control as explanations for events that occur. Locus of control, then, is "the extent to which people perceive outcomes as internally controllable by their own efforts and actions, or as externally controllable by chance or outside forces" (Myers, 2002). Empirical research has identified two additional dimensions of attribution theory meant to explain outcomes. In addition to the internal/external locus of causality, stability constitutes another dimension (Clark, 1997). When applied to students and teachers, a teacher may view a student's high or low achievement to be a stable factor across time, or one that does not occur consistently. A third dimension deals with controllability. That is, a teacher may view the student's high or low achievement to be under that student's control, or outside of the student's control.

These three dimensions of attribution theory relate to how individuals explain other people's behavior, and why they make these specific interpretations. Fritz Heider (1958), widely regarded as the originator of attribution theory, believed that people often struggle to make sense of the world, and often analyze and discuss why things happen the way they do, particularly, when the event is something negative or unexpected. Attribution theory then, may be used to interpret teachers' attributions of struggling students, students with disabilities, or problematic students. A better understanding of the relationship between teachers' perceptions of children's school performance, and teacher

responses to student achievement, may offer the foundation for predicting how willing elementary school teachers might be to implement interventions and treatment for their students with learning and behavioral disabilities.

Past research has focused on the differences in teacher attributions for low and high achieving students, as well as consequences of teachers' attributions for student failure. For instance, Graham and Weiner (1986) examined the link between teachers' anger and pity towards students and the preference to use rewards and punishment the teachers provided. Negative classroom events often trigger emotional responses in teachers, such as anger or pity. Their particular emotional experience is related to how much control they perceive the student had over the incident. For example, if a teacher believes that a student failed a test or assignment because of lack of effort, an external factor over which the child has more control, the teacher is more likely to feel anger and punish the child.

This study will examine teachers' attributions of students with Attention Deficit/Hyperactivity Disorder, and the relationship to intervention acceptability, either behavioral or pharmacological. Whereas previous research has focused on teacher attributions of student achievement, and students with learning disabilities, few published studies have done so for students with AD/HD. Recent research on attributions for children with AD/HD has focused solely on parental attributions. This research has demonstrated that when compared to parents of children without AD/HD, parents of children with AD/HD are more likely to attribute inattentive-overactive and oppositional-defiant behaviors to internal causes that are stable, and that were not under the child's control (Johnston and Freeman, 1997). Because AD/HD often has negative impact on

classroom performance in terms of success, achievement, grades, and behavior, it is important to examine the willingness of teachers to treat and intervene upon these students. Additionally, most students with AD/HD may have their educational needs met in the general education classroom. Research has also demonstrated that students with AD/HD often benefit from behavioral intervention (Ayllon, Layman, & Kandel, 1975; Dunlap et al., 1998; Dunlap et al., 1994; Kelley, 1990; Pfiffner & O'Leary, 1993; MTA Cooperative Group, 1999; Robinson, Newby, & Ganzell, 1981;). If teachers' willingness to implement interventions is affected by their specific attributions of the student's performance, it may have implications for the child's treatment.

For example, teachers may attribute the causes of disabilities to internal factors, such as the child's neurological functioning or genetic makeup. This may impact their acceptability of behavioral interventions designed for implementation in the general education classroom, since these intervention are designed to change external, environmental factors. Furthermore, teacher attributions toward students with disabilities may signify stability in the child's functioning across time, meaning that the child's performance is unlikely to change as they mature. This would also likely influence acceptability of interventions. Lastly, attributions that assign children a lack of control over their performance may impact teachers' belief that a student will respond to an intervention. Other types of treatment or intervention may appeal to teachers since they seem more appropriate. For instance, psychopharmacological treatment, which alters the internal state of the student, may perhaps seem more beneficial. However, attributions that ascribe student performance to external factors, such as the environment, that are

under the student's control, are more likely linked to acceptance of behavioral intervention, making the child more successful in the general education classroom.

CHAPTER II

REVIEW OF LITERATURE

Attribution Theory

Attribution theory posits that an individual's perceptions and beliefs about the world determine the expectations about behavior, whether it be self behavior or that of other people. Attribution theory explains the causes of events relative to the individual, and that individual explains the events and behaviors of others. Fritz Heider (1958) believed that individual's often struggle to make sense of the world, and people often analyze and discuss why things happen the way they do. Particularly, when the event is something negative or unexpected attribution theory seeks to clarify how and why we explain other people's behavior. In addition, this theory seeks to examine outcomes or events that may result from various attributions (Heider, 1958).

Attribution theory has been applied to education, specifically, the attributions teachers make of student behavior, ability, and achievement. Because schools often mainstream children with disabilities in general education, it may be important to examine how teachers perceive the behavior and outcomes for these students. Students with disabilities often remain in the general education classroom, because for many, this constitutes the least restrictive environment. Often, teachers are asked to implement specific interventions designed to improve student academic or behavioral functioning

within the general education classroom. These intervention are meant to be temporary in nature, and are faded out over time so that the student functions in the general education classroom independently, appearing similar to the other students in the classroom with regards to their academic and behavioral functioning. However, teachers may have specific attributions about children with disabilities, and these perceptions may affect how willing a teacher is to implement an intervention in the classroom.

Attribution Theory and Dimensions of Causality

Attribution theory is related to the concept of Locus of Causality. Widely regarded as the originator of attribution theory, Fritz Heider (1958) stated that the result of an action is felt to depend on two sets of conditions, specifically, factors within the person and factors within the environment. Past research has focused specifically on whether an individual views events as dominated by internally (dispositional factors within the individual) or externally (situational factors within the environment) controlled forces. For example, some individuals tend to view events or phenomena as controlled by internal forces, such as their own efforts and skills (Hunt, 1993). Others focus on the external environment, which is outside of their control, as explanations for events that occur. Locus, then, is "the extent to which people perceive outcomes as internally controllable by their own efforts and actions, or as externally controllable by chance or outside forces" (Myers, 2002, p. 55). Therefore, the study of the composition of causality began with an internal-external (locus) dimension.

Three dimensions of attributional causality have been identified. Stability, another dimension (Clark, 1997), investigates whether the behavior or event is stable across time and setting, or if it occurs under specific circumstances, in specific environments, or at

specific times. An unstable behavior or event, then, would be one that occurred at certain points in time, but not consistently or constantly. When applied to students and teachers, a teacher may view a student's high or low achievement to be a stable factor across time, or one that does not occur consistently. Weiner et al. (1971) introduced this second dimension of causality stating that ability is often perceived to be constant and unchanging, but other causal factors such as effort and mood may be more variable, changing from time to time (Weiner, 1985). For example, although a student may have high ability, an internal and stable cause of success, he or she may put forth low effort in certain academic performance areas. Effort, then, is classified as an internal an unstable cause (Weiner, 1985). Over time, it became clear that a third dimension of causality was necessary.

Controllability, a third dimension (Rosenbaum, 1972), deals with whether behavior or performance is attributed to controllable causes, or causes that are outside of an individual's control. A student's ability is often viewed as outside of his or her control. For example, if failure in math is due to low ability, an internal cause, it is also out of the student's control, as they cannot change their level of aptitude (Weiner, 1985). However, effort is a characteristic that an individual has control over. Failure may be attributed to low effort, an internal cause of which the student has control. Therefore, causality cannot be explained without the dimension of controllability. Rosenbaum (1972) argued that mood, fatigue, and temporary effort are internal and unstable causes. However, although effort is under the individual's control, mood and fatigue may not be. Weiner states that "locus and causality, not locus of control, describe causal perceptions. To avoid confusion, the locus dimension should be labeled "locus of causality" (Weiner, 1985, p.

552). Thus, the three dimensions of causal attributions used in empirical research are locus, stability, and controllability.

Empirical analysis of these causal dimensions has been conducted using factor or cluster analysis, multidimensional scaling, and correlations based on a priori schemes (Weiner, 1985). In the majority of studies investigating dimensions of causality, a locus, stability, and controllability dimension were identified. Furthermore, when participants rate causes of events, they often rate them on the three causal dimensions (Anderson, 1983). Their ratings also tend to be highly intercorrelated, signifying that the dimensions are not independent of one another (Anderson, 1983). Locus, stability, and controllability, then, should be used collectively in the explanation of causal events.

Recent research has also identified an additional causal dimension, a global/specific dimension. Within this dimension, behavior is viewed as either global occurring across all settings, environments, or situations, or specific, in which case the behavior is specific or occurs only in some particular setting or under certain circumstances. For example, an elementary student may perform well in every subject at school, leading one to believe his achievement occurs globally. On the other hand, the student may perform poorly in one subject area only, while achieving well in all other courses, upon which his performance may be viewed as specific to that particular subject.

These attributional dimensions have been applied to education, particularly teachers' attributions about student behavior and achievement. Research has focused on teacher attributions for children based on ability, effort, achievement, and disability. Moreover, the link between those attributions teachers make about students based on these characteristics and teacher behavior has been investigated. For instance, particular

attributions teachers make about a low achieving student with low ability may be related to their treatment of that student. This relationship may provide insight into teacher acceptability of proposed interventions, and teacher willingness to execute interventions.

Attribution Theory and Education

Attribution theory is concerned with the explanations that people give to explain their own behavior, as well as the behavior of other people. In the context of education, attribution theory has focused on the reasons that teachers give to explain student success or failure, student high or low achievement, and student high or low effort. Attribution theory has also examined teacher attributions of students who have been labeled with psychiatric and special education diagnoses, and those who have not. This model offers a framework for understanding teacher behavior in relation to student performance. Attribution research has examined anger versus pity for the student in relation to student ability and effort (Graham & Weiner, 1986). The consequences that occur as a byproduct of teacher attributions of students have also been studied (Tollefson & Chen, 1988).

The concept of locus (Myers, 2002), attributing an event to either internal or external forces or stimuli, was initially studied in the context of individual self behavior. For example, causal attributions involving a strong sense of personal control and accountability were referred to as internal attributions, while attributions involving a lack of control were referred to as external. If a student studied hard for an exam and did well, he or she may attribute their success to internal forces. Conversely, if a student studied hard for an exam and did poorly, they may attribute their failure to external forces over which they had little control. Thus, early research pertaining to locus of causality suggested that beliefs in internal causes of behavior led to positive outcomes, while

beliefs in external causes of behavior led to less favorable outcomes. Whalen and Henker (1976) proposed the concept of "functional externality" in which external attributions led to more positive or optimistic outcomes and beliefs. For example, if a student's problematic behavior, such as inattention, is attributed to external stimuli, such as a noisy classroom that hinders the student from attending, observers will likely view this behavior as changeable, specifically with the use of academic and behavioral intervention. Since research indicates a high success rate with these interventions, it is important for teachers to consider them in treating low achieving students and students with behavior problems.

Research indicates that teachers tend to attribute low-student achievement and school performance to internal student characteristics as opposed to home, environmental, and teaching factors (Medway, 1979). Thus, teacher attributions about students may lead to differential response to, interaction with, and treatment of the child. Additionally, it is likely to have strong implications for treatment preferences for students with learning and behavioral difficulties. These implications are important, because research supports the use of behavioral interventions for students with learning and behavioral difficulties. A prescribed behavioral intervention frequently requires extra effort on the part of the teacher. When teachers view student problems to be a result of internal deficits, over which the student has little control, and even stable over time, they may be less willing to promote and implement behavioral interventions designed to alter some external element of the student's environment. Additionally, teachers' inclinations to attribute school difficulties to internal deficits, or the student, rather than external factors, the environment, the curriculum, or even the teacher, may be a result of the self-

serving bias (Bradley, 1978). That is, teachers may deny personal responsibility for failure of that student in order to protect their own self-image. When they are able to attribute student problems and failure to causes that are out of their control, out of the student's control, and immune to environmental change and external causes (thus caused by biological, internal deficits), they may be acting to preserve their self-image.

Teacher Attributions of Ability and Effort, Failure and Success

Negative student outcomes often cause teachers to search for explanations for poor performance. Weiner (1986) suggests that teachers' emotional and behavioral reactions, as well as their expectations for future behavior are often influenced by attributions they make regarding the student's behavior. When students perform poorly, teachers often seek to understand the cause of the negative outcomes, specifically in terms of how much control the student had over their work and output. The most common causes teachers tend to focus on are ability and effort (Burger, Cooper, & Good, 1982). Graham (1991) points out that in the context of achievement, success and failure are most often attributed to ability and effort. That is, teachers tend to attribute a students failure or success to low or high ability or high or low effort. Empirical research has applied the three dimensions of attributional causality, locus, stability, and controllability, to teacher perceptions of failure based on ability and effort (Burger, et al., 1982; Graham, 1991; Weiner, 1985). Ability is often perceived to be internal, stable, and uncontrollable, while effort is labeled internal, unstable, and controllable (Graham, 1991; Weiner, 1985). Because low ability is perceived as not controllable and therefore not a responsibility of the student, it may lead the teacher to believe that there is no response in her or his repertoire to alter the course of student failure. Therefore, when failure is attributed to

disability, which is often the case for students with learning difficulties, teachers often attribute the event to internal characteristics that are unchangeable and out of the student's control (Graham, 1991). If a teacher attributes a student's high or low achievement, failure or success, or cause of his or her disability, to be either internal or external, it is likely to have an effect on their willingness to treat and intervene upon the student.

In terms of student ability, there is evidence that teachers perceive low ability to be internal and uncontrollable. Conversely, low effort is often viewed by teachers to be a controllable construct (Burger, Cooper, & Good, 1982; Medway, 1979; Weiner, 1985). Although both characteristics are seen as unchangeable traits that lie within the child and thus an internal characteristic, teachers believe that a student has the capacity to control the level of effort they put into their academic work and behavior. However, teachers view ability, or aptitude, to be an internal construct over which the student has no control (Graham, 1991). In other words, a student cannot change their level of aptitude or intelligence. These types of attributions have significant implications in terms of teacher acceptance of treatment and intervention for struggling students. If the student's level of success or failure is attributed to causes that are internal and outside of the student's control, it is unlikely that the teacher will view an academic or behavioral intervention as acceptable.

According to the attribution theory, events or circumstances influence the likelihood that an individual will attribute the behavior of others to personal disposition, an internal cause, or to the particular situation, an external cause. For example, teachers may attribute a child's underachievement to lack of motivation, an internal/dispositional

attribution, or to physical and social circumstances, an external/situational attribution. Attribution theory has also been extended to explain observers' tendency to underestimate situational influences and overestimate dispositional influences upon others' behavior. This phenomenon is labeled the "fundamental attribution error" (Myers, 2002, p. 86). For example, a teacher may attribute an underachieving student's success on an exam to luck, or an external, situational attribution. When the underachieving student fails an exam, the teacher may attribute his or her failure to lack of effort, an internal, dispositional attribution. The fundamental attribution error is consistent with teacher attributions of ability and effort. Research indicates that teachers attribute student failure to low ability and low effort, both of which are internal, dispositional attributions (Burger, Cooper, & Good, 1982; Medway, 1979; Weiner, 1985; Weiner, 1986). Therefore, teachers appear make the fundamental attribution error when reporting causes for student failure. The difference lies in the attribution of controllability. Teachers report that effort is under the student's control, and ability is outside of the student's control.

Another important dimension of the fundamental attribution error is the actor-observer effect (Myers, 2002). In some situations, when observing another's behavior, the observer is able to focus all attention on the person he or she is observing, and the situation becomes relatively invisible. Under those circumstances, the observer is more likely to attribute the person's behavior to internal factors, so that the person appears to cause whatever happens (Jones & Nisbett, 1971). Attribution theory posits that individuals tend to seek out causes for negative behavior more often than positive behavior, teachers, for example, may be more inclined to identify the causes for negative student behavior. Additionally, since the actor-observer effect predicts that the observer

is more likely to interpret the actor's behavior as internal, teachers may be more disposed to interpret negative student behavior (academic failure or behavioral problems) in terms of internal, dispositional traits occurring within the student.

When teachers attribute student academic or behavioral performance to either external or internal causes, negative outcomes are likely to result. In particular, the attributions teachers, parents, and other school personnel make about the classroom performance of low-achieving students and students with disabilities may affect their willingness to intervene for the child. For example, a teacher who makes an internal, stable, uncontrollable attribution about problems exhibited by a student with a learning disability may be less willing to implement an academic intervention, because the behavior is seen as residing within the child, unchangeable, and unmanageable by the child. A better understanding of the relationship between teachers' perceptions of children's school performance, and teacher responses to student achievement, may offer the foundation for predicting how elementary school teachers will respond to interventions and treatment for their students with learning and behavioral disabilities.

The Effects of Attributions on Teacher Behavior

Anger versus Pity: Rewards versus Punishment

Differences in teacher attributions for low and high achieving students, as well as consequences of teachers' attributions for student failure have been a focus of investigation in attribution theory. In his application of attributional theory to education, Weiner (1985) proposed a theory of motivation and emotion. Through his review of past research studies investigating the dominant causes for success and failure, Weiner found that in terms of academic achievement, two dominant causes, ability and effort, are

consistently ascribed to behaviors and outcomes. That is, teachers tend to attribute a students' success to high ability and hard work or effort. Conversely, failure is most often attributed to low ability and low effort, or not trying (Graham, 1991; Weiner, 1985). Furthermore, Weiner, Graham, and Chandler (1982) studied three dimensions of causality, i.e. locus, stability, and controllability, and their relationship to the emotional responses of anger, pity and guilt in a two part study. University students were asked to create scenarios in which they felt anger, pity, or guilt. Two scenarios were created for each emotion, and then students were asked to report their perceived causes of the event. The researchers then analyzed the attributional dimensions, locus, stability, controllability, as a function of the emotion. Situations involving pity were most often associated with stable and uncontrollable causes, while situations involving guilt were most often associated with internal and controllable causes (Weiner, Graham, & Chandler, 1982).

Graham and Weiner (1986) examined the link between teachers' anger or pity towards students and the rewards and punishment they provided. These researchers discovered that negative classroom events often trigger emotional responses in teachers, such as anger or pity. Teachers' particular emotional experience is related to how much control they perceive the student had over the incident. For example, if a teacher believes that a student failed a test or assignment because of lack of effort, an internal factor over which the child has more control, the teacher is more likely to feel anger and punish the child. If on the other hand, the teacher perceives a child to have failed due to low or lack of ability, an internal factor out of the student's control, the teacher is more likely to feel pity for the child. Medway (1979) explained the relationship between teacher attributions

and behavior by stating that those students who will get the greatest amount of teacher criticism will be “dull students who are held responsible for failure” and those receiving the greatest amounts of praise will be “smart students who are held responsible for success” (p.1).

The beliefs, perceptions, attitudes, and expectations teachers have for student behavior may be explained by attribution models. The attributions that teachers make about students’ behavior may have an effect on their willingness and acceptance of help, treatment, and intervention for the student. Recent research has examined the relationship between teacher attributions of student failure and their behavior toward the failing student (Georgiou et al., 2002). Specifically, factors such as the student’s level of ability and effort, family characteristics, and teacher effects on student performance were examined in terms of their effect on teacher attributions of student failure. These attributions were then studied to scrutinize their effects on teacher behaviors that represented pity, anger, and giving up. Overall, the study examined which variables (ability, effort, and family characteristics) were related to the variance in teachers’ treatment of student failure. The results indicated that 10% of the variance in report of pity was accounted for by student ability (Georgiou et al., 2002). Particularly, it appeared that teachers responded with more pity toward failing students with low achievement and low ability. In addition, 31% of the variance in teacher anger was accounted for by ability and effort together. Specifically, teachers responded with more anger when they attributed student failure to lack of effort. Finally, 67% of the variance teachers’ “giving up” was accounted for by ability, effort, teacher effects, and family factors combined (Georgiou et al., 2002). In conclusion, this research suggests that teacher attributions of

student failure seem to be linked to their behavior toward the failing student and their beliefs about how effective they may be with that student.

Willingness to Praise and Help

Past research has focused on the consequences of teacher attributions, particularly regarding low versus high achievement and success versus failure. Teachers' willingess to praise or help a student based on the attributions they make about that student were examined. Tollefson and Chen (1988) examined the relationship between teachers' willingness to praise and to help students, based on their internal and external attributions. In this study, teachers were given vignettes of students asking for help. In some scenarios, the student was portrayed as having low ability (internal and outside the student's control). In other scenarios, the student was portrayed as having or low effort (internal and controllable). Teachers reported that although their expectation of success for low ability students was only moderate, they would be more willing to help the student with low ability and are more likely to enjoy working with him. In addition, they indicated that they would be more likely to praise and less likely to criticize or get angry with the low ability students (Tollefson & Chen, 1988).

Attributions of Students with LDs

The relationship between teacher attribution and teacher behavior towards particular students may be studied in the context of disabilities and disorders. The manner in which teachers conceptualize learning disabilities is likely to have a major impact on how they view treatment and intervention for these students in their classrooms. For example, Weiner (1993) discussed how disabilities can be viewed as either a "sin or sickness" (p.1). Certain disabilities, such as learning disabilities, are often viewed by

teachers and others as a sickness, (internal, stable, and uncontrollable to the student). These types of disabilities are perceived as out of the student's control, and very stable across setting and time. These types of attributions are similar to those made of low ability students. Consequently, these teachers may view students with learning disabilities to be less responsive to intervention and instruction in the general education classroom. Conversely, causes of maladjustment, such as drug abuse, are viewed as sins (under the person's control) (Weiner, 1993).

Because the concept of learning disabilities is rooted in the traditional medical model, they are more likely to be seen as needing diagnosis, and to have internal causes that are unchangeable (Clark, 1997). In one study, 97 general education classroom teachers from public elementary schools were given vignettes of a hypothetical boy who failed a classroom test (Clark, 1997). Information about the boy included his level of ability and the amount of effort expended by other students in the classroom. The teachers read one of eight vignettes that described boys either with or without a disability, with high or low levels of ability, and with high or low expended effort. The researchers examined the likelihood of teachers recommending reward or punishment for the student, feeling anger or pity for the student, and expecting future failure for the student based on the vignette they were asked to read. The results indicated that teacher's knowledge of learning disabilities influenced whether they rewarded or punished the child. Specifically, teachers reported that they were more likely to reward the child if they knew he had a learning disability and reported less anger and more pity for boys with disabilities. Specifically, they reported lower levels of anger for boys with disabilities and low-ability, than boys with disabilities and high-ability. Lastly, teachers reported that they had higher

expectations of future failure for boys with disabilities, specifically for those with disabilities and low-ability and low-effort (Clark, 1997).

The beliefs teachers have about students may also have a huge impact on their willingness to reintegrate students with disabilities into their general education classrooms. Teachers may draw certain conclusions about whether or not the child belongs in the general education classroom based on assessment results of that student. Rodden-Nord and Shinn (1992) investigated this phenomenon directly by assessing the willingness of general education classroom teachers' to reintegrate a student with a learning disability in reading based on information the researchers provided about the student's academic capabilities. Using CBM reading probes and the Broad Reading Cluster subtests of the Woodcock-Johnson Test of Achievement, the researchers classified students receiving special education as either potential candidates or unlikely candidates for reintegration. The researchers provided the general education teachers with information regarding the student's reading skills. Furthermore, these skills were compared to students in the general education classroom placed in low reading groups, and teachers were provided with this information as well. Prior to being provided with this information, teachers of both potential and unlikely candidate students were unwilling to reintegrate.

The researchers discovered that once teachers were provided with the assessment results and academic information, the mean willingness for teachers of students labeled potential candidates for reintegration into the classroom increased, while the mean willingness for teachers of students labeled unlikely candidates decreased (Rodden-Nord & Shinn, 1992). Teacher willingness to reintegrate students receiving special education

into their general education classroom is an important step to successful reintegration and mainstreaming. When teachers form rigid beliefs and mental pictures of students based on a small piece of information or a single observation, they may be ignoring other important factors related to the student's ability for success. Furthermore, these findings have strong implications for the effects of labels on a teacher's attributions and treatment acceptability. Once a student is labeled, either with a disability, as low-achieving/low ability, or unworthy of reintegration, teachers may make certain attributions about that child contingent on the label that affects their behavior toward the student and their willingness to instruct and intervene upon them.

Teacher Attributions of Student Problem Behaviors

Students' problematic and disruptive behaviors are an important area of research for educators and school personnel. Teacher perceptions, beliefs, and attributions of problematic student behavior have been researched to identify a relationship between teacher attributions and teacher disciplinary style (Bibou-Nakou, Stogiannidou, & Kiosseoglou, 1999). The majority of these studies suggest that teachers attribute problematic classroom behavior to internal student characteristics and rarely to characteristics within the environment or within the teacher (Christenson, Ysseldyke, Wang, Algozzine, 2001; Ho, 2004). This area of research could be enhanced to include the relationship between teacher attributions of student behavior and the type of interventions or treatments teachers find acceptable to remediate the behavior.

In conclusion, it appears that teachers have different perceptions and make different attributions about causes of behavior and outcomes for behavior based on specific characteristics of the student. When teachers view a students behavior as internal

an unchanging, they often feel that the student is less likely to succeed in the future. Additionally, if a teacher views a learning disability to be caused by internal characteristics which are uncontrollable, and stable over time and across settings, they will be less likely to believe that they child's behavior will change and become more successful. If teachers make these types of attributions, it is likely that they will view any type of intervention for the child in the general education classroom as unlikely to be successful. As a result, they may be less likely to be willing and accepting of treatment and intervention for the student in the regular education classroom setting. Since research has identified a number of intervention strategies based on environmental change, it is important to investigate the effects of teacher attributions on treatment acceptability.

AD/HD Symptomology and Attributions

AD/HD Symptomology

Individuals with Attention-deficit/Hyperactivity Disorder (AD/HD) demonstrate developmentally inappropriate levels of inattention, impulsivity, and/or motor activity that are linked with functional impairment (American Psychiatric Association, 2000). AD/HD is one of the most common childhood disorders, affecting approximately 3 to 5 percent of school-aged children (American Psychiatric Association, 2000). The major symptoms of AD/HD (inattention, hyperactivity, impulsivity) characteristically emerge in childhood, specifically the early childhood years and often impair functioning in a multiple areas and settings. These symptoms are often apparent throughout the individual's life, and are associated with impairments in peer, family, and academic functioning. The Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition outlines the core symptoms of AD/HD as inattention and/or hyperactivity/ impulsivity

(American Psychiatric Association, 2000). That is, an individual may be diagnosed with AD/HD primarily inattention, AD/HD primarily hyperactivity/impulsivity, or AD/HD combined type, including symptoms from both of the previous.

Inattention is characterized by difficulty maintaining or sustaining levels of attention that are characteristic of same-aged, non-diagnosed peer counterparts. Deficits in attention may result in difficulty completing academic assignments, low rates of accuracy on academic work, off-task behavior or daydreaming, and difficulty understanding the task at hand. Hyperactivity, or hyperkinesis, is exemplified through "excessive movement, unpredictable behaviors, unawareness of consequences, inability to focus on and concentrate on a particular task" and can result in poor academic functioning (Ayllon, Layman, & Kandel, 1975). In fact, research indicates that students with AD/HD are at risk for scholastic problems, presumably due to their deficits in attention and engagement during instruction and work productivity (DuPaul & Stoner, 2003). Children with attention-deficit/hyperactivity disorder also demonstrate a higher than average frequency of off-task behavior in the classroom (DuPaul et al., 1998). Children with attention-deficit/hyerpactivity disorder are also at risk for additional behavioral difficulties, such as defiance toward authority figures, social difficulties, and conduct problems such as lying, stealing, and fighting (Barkley, 1991). They display behaviors that interfere with classroom routines. Hyperactivity is often manifested in school-related and behavioral problems such as fidgeting, out-of-seat behavior, and aggression.

These core symptoms, inattention, hyperactivity/overactivity, and impulsivity, place children with this disorder at risk for poor school performance in terms of academic

functioning in the area of independent seat-work and assignments, overall grades, attention to instruction, and dropping out. Academic underachievement is one of the greatest risk factors associated with students with AD/HD due to their difficulties sustaining attention (DuPaul et al., 1998). Students with the disorder often have trouble concentrating for extended periods of time, habitually have trouble completing an academic task or activity, and tend to be unorganized (DuPaul & Stoner, 2003). Children with AD/HD are also at a greater risk of school-related problems such as suspension from school, poor peer relations, low self-esteem, and depression (Barkley, 1991).

To date, the most common and popular targeted treatment for academic and behavioral problems associated with AD/HD has been pharmacological treatment (psychostimulant medications) such as methylphenidate (Ritalin), Adderall, and other stimulant drugs. However, behavioral interventions have been found to be highly effective through empirically based research. In addition, numerous academic interventions have been developed that target students with AD/HD (DuPaul & Eckert, 1998). These interventions can be designed to target all problematic areas associated with AD/HD, without the negative side effects associated with stimulant medication. In order to better understand the preference for treatment options, it is necessary to examine attributions related to the cause and maintenance of problematic and difficult AD/HD symptomology and behaviors.

Parents' Causal Attributions of AD/HD

As the majority of the research on attribution theory as applied to education has focused on academic success, ability, and difficulties, little research has attended to attributions about students with other disorders. Attribution theory has just recently been

extended to attributions, beliefs and perceptions of children with attention deficit/hyperactivity disorder (AD/HD). However, the research that has been completed in this area has focused mainly on parental attributions of child behavior for those children diagnosed with AD/HD, specifically in terms of the three dimensions of locus, stability, and controllability, and how these attributions relate to their acceptability of certain treatments for AD/HD. Much less research has been done to examine teachers' acceptability of treatment for children/students with AD/HD. Numerous studies have been conducted to examine causal attributions parents make of their child diagnosed with AD/HD (Johnston & Freeman, 1997; Johnston, Seipp, Hommerson, Hoza, & Fine, 2005).

Another area of study compares the attributions parents of children with AD/HD make to parents of children not diagnosed with AD/HD (Johnston & Freeman, 1997). Furthermore, some studies have compared the attributional patterns of parents of children with AD/HD to parents of children with other behavior disorders such as oppositional defiant disorder (ODD) (Johnston, Chen, & Ohan, 2006; Saltmarsh, McDougall, & Downey). For example, there is evidence that there are distinct differences in attributional patterns of parents of children with AD/HD and those of parents of children with ODD. Extensive research has also been conducted to examine how these differences in parental attributions may affect parent-child interactions (Frick, 1994; Patterson, 2002). Because both parents and teachers hold a crucial role in treatment, intervention, and management of children with AD/HD, it is important to understand how their attributions of the causes of AD/HD relate to their own behavior towards those children, and their preference for treatment.

AD/HD has historically been regarded as a disorder with a neurobiological basis that is best treated using pharmacological intervention or treatment (Barkley, 1991; Faraone & Biederman, 1994). There is much evidence that the social and ecological context in which the disorder is displayed can have a large impact on the child's behavior and parental attributions about their child with AD/HD may influence parent-child interactions, parent-child conflict, and parent's role in treatment and intervention for their child with AD/HD (Johnston & Freeman, 1997; Johnston & Mash, 2001). The manner in which parents interpret their child's behavioral symptoms of AD/HD, inattention, impulsivity, and hyperactivity, may affect their responses to these behaviors as well as their choice of treatment for their child (i.e. medication, behavioral intervention). Parental perceptions of the etiology of AD/HD symptoms may influence the acceptability of psychosocial or pharmacological treatment/interventions (Johnston & Freeman, 1997; Johnston, Seipp, Hommersen, Hoza, & Fine, 2005; Reimers et al., 1995). Whereas previous research has focused on parental attributions of children with AD/HD, little research has been done to examine teacher attributions of students with AD/HD, and how these attributions impact a teacher's willingness to intervene upon these students. Because teachers are often responsible for intervening with students who have AD/HD, research in this area would be beneficial to better understand factors affecting teacher willingness and acceptability, or lack thereof, in treatments for these children.

Studies that directly investigate parental attributions for their own child diagnosed with AD/HD often ask parents to rate causality of behaviors on a likert scale. For example, Johnston et al., (2006) used written descriptions of a parent-child interaction in which the child displays a behavior indicative or typical of AD/HD symptomology. The

child may behave in a highly impulsive or overly hyperactive manner, in such a way that it disrupts everyday activity and irritates the parent. After reading these scenarios, the parents were asked to rate the cause of the child's behavior on the dimensions of locus, whether the behavior was due to another individual/situation, or to the child (internal or external), globality, whether the behavior was specific to the situation or whether it occurs in numerous settings, stability, the consistency of the behavior over time, and controllability, whether or not the behavior was within the child's control or outside the child's control. Results of this investigation, consistent with past research, indicated that parents attributed the cause of the behavior to internal forces more often than external forces (Johnston & Freeman, 1997). That is, when judging behaviors of their child diagnosed with AD/HD, parents are more likely to indicate that the behavior was caused by some internal force, rather than an external environmental event.

Past research has also consistently shown that parents of children with AD/HD are more likely than parents of children without AD/HD to attribute their child's behaviors as more uncontrollable and more stable over time, as well as more internal to the child (Johnston & Freeman, 1997). This "disease" (Johnston et al., 2005) perspective that parents tend to take is consistent and related to the research of Weiner (1993) on the perception of disabilities as a "sin or sickness" (p.1). Consistent with this notion, it appears that parents often view their child's diagnosis of AD/HD as a sickness that is internal to the child. These attributions may be related to the sources parents seek for information regarding AD/HD, as parents report consulting medical specialists and family doctors most often (Johnston et al., 2005). These beliefs have important implications for treatment preference.

Parental Attributions: AD/HD versus No Disorder

Research in the area of parental attributions suggests that causal attributions for child behavior differ in parents of clinic referred children and parents of children with no behavior disorders. Johnston and Freeman (1997) compared parents of children without behavior disorders to parents of children with AD/HD. The investigators found that parents of children with AD/HD were more likely to attribute inattentive-overactive and oppositional-defiant behaviors to internal causes that are stable, and not under the child's control. These findings are consistent with previous research in which parents attributed oppositional and defiant behaviors, common behaviors of AD/HD, as not controllable by the child (Johnston & Patenaude, 1994). These results have important implications for willingness to accept particular types of treatment for children with AD/HD. Acceptable treatments will likely be those that treat the child internally, such as pharmacological interventions that alter neurobiological functioning when problematic behaviors are viewed as symptoms or illnesses of AD/HD which be internal to the child. Additionally, because these behaviors are also seen as not under the child's control, behavioral interventions that alter some external aspect of the child's environment or social context may likely be viewed as unacceptable or ineffective.

Research has examined the link between the type of behavior a child engages in and the attribution that the parent makes about that particular behavior. Results have consistently found that parents tend to view their child's positive behaviors as caused by internal, controllable, and stable causes or factors. Contrary to this, negative child behaviors tend to be attributed to external, uncontrollable, and unstable causes (Joiner & Wagner, 1996; Miller, 1995). However, a different pattern of attributions has been found

for parents of children with AD/HD. In their comparison of attributions made by parents of children with AD/HD and parents of nonproblem children, Johnston and Freeman (1997) asked parents to read written scenarios of a child's behavior. In addition, these parents were asked to remember behaviors of their own children, and view videotapes of their own childrens' behaviors. In each of these conditions, parents were asked to make attributions about the child's behavior. In terms of prosocial behaviors, there were no differences between parents of AD/HD and nonproblem children. In other words, parents of both AD/HD and nonproblem children attributed behaviors to internal, controllable, and stable causes. However, there was a difference between the two groups in their attributions of negative behaviors, as parents of AD/HD children were more likely to attribute negative behaviors as internal and pervasive. In general, when parents view negative or problematic child behaviors as dispositional, attributing behavior to internal, global, and stable factors, controllable by the child, they are more likely to be disappointed or angered by the behavior and use more severe discipline (Dix & Grusec, 1985; Geller & Johnston, 1995).

Parental Attributions: The Role of Oppositional Behavior

The types of attributions mentioned previously may also have implications for parental acceptance of behavioral treatment or intervention for their child with AD/HD, as well as parental emotional and behavioral responses to these behaviors. The type of attribution a parent, caregiver, or teacher makes may effect their emotional and behavioral response to the child's behavior, which in turn may affect how they choose to manage that behavior. The defining features of AD/HD consist of difficulties with behavioral inhibition, attention, and executive functioning. Because oppositional defiant

disorder is the most common comorbid disorder with AD/HD, children with AD/HD may also exhibit behaviors consistent with oppositional defiance (Mash & Barkley, 2003). In addition, due to the core symptom of disinhibition in children with AD/HD, their impulsivity may lead them to engage in defiant behaviors, which are thought to be unplanned and often unintentional. In other words, defiant behaviors, exhibited by children with AD/HD, may simply be a manifestation of the hyperactivity-impulsivity symptom, as opposed to being meaningful and purposeful behaviors that occur in children with ODD. Furthermore, given the high comorbidity of AD/HD and ODD, parents often observe both inattentive and oppositional behaviors in their child. Johnston and Patenaude (1994) investigated the difference between attributions for inattentive-overactive behaviors and oppositional-defiant behaviors among parents of children with attention-deficit/hyperactivity disorder. They found that there were no differences between attributions for these two behaviors in terms of locus and stability. Oppositional-defiant behaviors were found to be more controllable by the child than inattentive-overactive behaviors. In addition, oppositional-defiant behaviors often elicit negative or pessimistic responses and appear to be more problematic to the observer.

Johnston and Patenaude (1994) also reported that inattentive-overactive behaviors offered in the context of opposition-defiant behaviors were rated as more controllable by the child. However, oppositional-defiant behaviors presented in the context of inattentive-overactive behaviors were perceived to be less controllable and less stable. Similarly, Johnston, Chen, and Ohan (2006) compared attributions of mothers of nonproblem boys, boys with AD/HD, and boys with oppositional defiant behavior. Mothers of boys with AD/HD/OD gave more negative attributional causes for their child's behavior than

mothers of children with AD/HD only and nonproblem boys. These results may have implications for the type of treatments preferred by parents and teachers. For instance, if oppositional behavior is found to be more controllable in children with ODD or other behavior disorders, but less controllable in children with AD/HD (due to their impulsivity), it may affect a parent or teacher's acceptance of specific treatments.

Oppositional behaviors are often categorized as direct, hostile, negativistic, and preplanned (Mash & Barkely, 2003). This implies that these behaviors are under the child's control. However, hyperactive and impulsive behaviors are usually not perceived to be under the control of a child with AD/HD. When behaviors are viewed to be more internal to the child, but less controllable by the child and parent, those intervening may assume that altering situational cues or contexts will be ineffective, or not the first preference for treatment. However, medical treatment, may be perceived to be the most effective treatment, since the problem is conceived as a physiological deficit that cannot be controlled by child, parent/teacher, or environment. In conclusion, this research suggests that both inattentive-overactive and oppositional-defiant behaviors found in children with AD/HD are caused by internal characteristics of the child, and are likely perceived to be resistant to environmental contingencies. If the child cannot change his or her behavior on their own, due to lack of controllability, he or she may be seen as candidate for psychopharmacological treatment.

Attributions and Reactions

Numerous studies have been conducted to investigate parental attributions of children with AD/HD, and also the attributions of parents of nonproblem children. Research has examined the effects these attributions have on parent-child interactions.

The attributions that parents make about child behavior may be related to difficulties in interactions between the parent and the child (Bickett, Milich, & Brown, 1996; Dix & Lochman, 1990). It is relevant to investigate how parent-child interactions and difficulties in interactions are related to how these difficulties arise and how they are linked to treatment compliance and outcomes for children with AD/HD. Research in this area has compared attributions that parents of children with AD/HD or other externalizing behavior problems and parents of children without any disorder make for their child's behavior.

For example, Dix and Lochman (1990) compared the attributions of mothers of aggressive boys to mothers of nonaggressive boys using videotapes of children misbehaving. The results indicated that mothers of aggressive boys made more negative attributions than mothers of nonaggressive children. Additionally, mothers of aggressive children reported more intense negative emotions than mothers of nonaggressive children. Strassberg (1997) found similar results when comparing mothers of aggressive preschool boys to mothers of nonaggressive preschool boys. Mothers of both aggressive and nonaggressive children were asked to read hypothetical vignettes of a child being compliant or noncompliant. All mothers were questioned about the severity of the noncompliance, and their attributions of the intent of defiance. Attributions, rather than judgments of severity, were more accurate in discriminating between mothers of aggressive children and mothers of nonaggresive children. Mothers of the aggressive boys were more likely to make negative attributions for noncompliant behaviors, reporting that the child in the vignette intended to be defiant.

In one social-cognitive model of parent-child interactions for children with AD/HD or other behavior disorders (oppositional defiant disorder, conduct disorder), Dix and Grusec (1985) proposed that parental attributions may mediate between a child's behaviors and parents' interpretation and reaction to the behaviors. Johnston and Ohan (2005) illustrate this idea using an example of a child refusing to eat his vegetables. The parent may attribute this behavior to a "lack of hunger (internal, uncontrollable, and transient cause)", or they may conclude that "the child is stubborn (internal, controllable, and stable cause)". The type of attribution a parent makes about their child may be related to the parent's affective response to his or her child, as well as how they choose to intervene upon their child. For instance, Johnston and Leung (2001) found verification that attributing obedient or "prosocial" child behavior to internal, controllable, and stable causes is linked with more constructive and positive parenting reactions. These findings have important implications for teacher behavior towards students. This model may be applied to teachers in such a manner that teachers' attributions of children, specifically children diagnosed with AD/HD and children with behavioral problems, may serve to mediate or effect their behavior toward that student and their ideas about effective treatments.

Teacher Knowledge and Attitudes of AD/HD

Behavioral problems and difficulties such as hyperactivity, inattention, and impulsive behaviors have always been an issue in schools. As an increasingly large number of children with disabilities and behavior problems remain included in general education and more teachers will be called upon to implement interventions to assist these students. Those attributions a teacher makes about these children will likely affect

her acceptability and willingness to implement these interventions with integrity. To date, literature investigating teacher attributions of students with AD/HD does not exist. A small amount of research and literature is present that investigates teacher knowledge and attitudes towards students with AD/HD, however, the three dimensions of attributions theory, locus, stability, and controllability, have not been examined with teachers to the same extent been with parents. Teacher attitude involves a number of components, including the thoughts or cognitions about the student, the feelings towards the student, and those behaviors elicited by the teacher directed at the student. Teacher cognition and affect are discussed below as they pertain to students with AD/HD. Teacher behavior in the form of treatment acceptability will be discussed later.

Because teachers and other personnel in the school system are often a frequent source of information for parents concerning children with AD/HD, exploring teacher attributions, knowledge and misconceptions for AD/HD behaviors would be highly beneficial. Research in this area may also reveal the underlying mediators for preference of particular treatments. For example, it would be relevant to investigate the correlation between a teacher's tendency to attribute behaviors indicative of AD/HD to either internal or external causes (locus), and her or his preference toward stimulant medication or behavioral intervention to treat those behaviors. Specifically, as teachers are a necessary component in the multimodal treatment of children with AD/HD through their execution of behavioral interventions in the classroom, it is important to understand their acceptance of specific treatments, and the rationale behind those preferences.

To better understand attribution theory, research about teacher knowledge and misperceptions of AD/HD is reviewed. Because there is a large body of research to

signify that children with AD/HD experience academic and social problems, research related to teacher knowledge and comprehension of the disorder is pertinent. Teachers often play a direct role in the referral and assessment process for children suspected of AD/HD behaviors. The literature shows that teachers are frequently the first person to refer a child for AD/HD evaluation, and in addition, those referrals often drive the assessment process and are also used as a guide when predicting the student's symptomology (Pelham et al., 1992). Although a teacher may refer the child for AD/HD, the assessment may indicate other diagnoses than AD/HD. Many children referred for AD/HD meet the diagnostic criteria for alternative disorders, or do not merit diagnosis at all (Cotugno, 1993).

The school environment, and the classroom in particular, may prove to be one of the most challenging environments for children with AD/HD, specifically since this setting requires the child to exhibit high levels of engagement and attention for extended periods of time. Sciutto et al. (2000) studied the teacher knowledge and misconceptions of AD/HD using the KADDS (knowledge of attention deficit disorders scale). The researchers designed the scale themselves to study teacher familiarity with AD/HD, as well as any fallacies and erroneous information they have. Three subscales of the KADDS, general information, symptoms/diagnosis, and treatment were analyzed using an ANOVA. Results indicated that teachers scored higher on the symptoms/diagnosis subscale than the treatment and general information subscales (Sciutto et al., 2000). There were no differences between the treatment and general information subscales. Correct and incorrect responses were also analyzed, demonstrating that teachers had the least amount of incorrect responses, or "misconceptions" on the symptoms subscale,

which directly corresponded with the diagnostic criteria designated by the DSM-IV (Sciutto et al., 2000).

Teachers' low scores on the general information subscale, containing items related to the "nature, course, and treatment of AD/HD" (p. 3), is consistent with past research. Teachers do not have accurate knowledge of these categories of information (Sciutto et al., 2000). This is also consistent with similar research using the KADD-Q (knowledge of attention deficit disorder questionnaire) in which teachers scored the highest on the Causes subscale, and lower on the Characteristics and Treatment subscale (West, Taylor, Houghton, Hudyma, 2005). West et al. (2005) compared teachers' and parents' knowledge about AD/HD using a questionnaire format of the KADD. Both teachers and parents knew more about the causes of AD/HD and significantly less about the characteristics and treatment of AD/HD. Specifically, both teachers and parents had a general knowledge about the overall defining features of AD/HD, such as inattention and hyperactivity. In terms of the more narrow, specific features and characteristics of AD/HD, parents and teachers were less accurate. For example, 95% of teachers responded correctly when asked whether or not children diagnosed with AD/HD have poor concentration. But when asked about a more specific feature of AD/HD, 38% of teachers reported inaccurately that children diagnosed with AD/HD have "poor body posture", and 48% reported that children diagnosed with AD/HD do not talk excessively in class (West et al., 2005, p. 202).

These results are consistent with the literature in this area, that knowledge of the disorder was tied to the likelihood that teachers had taught a student diagnosed with AD/HD at some point in their career (Kos, Richdale, & Jackson, 2004). Experience with

a child diagnosed with AD/HD in the classroom leads to more knowledge about AD/HD symptomology and behaviors (Kos et al., 2004; Sciutto et al., 2000). Kos et al. (2004) found that there was a significant positive correlation between years of teaching and perceived knowledge of AD/HD. This may account for the higher rate of accuracy on the symptoms/diagnosis subscale, because teachers may use those behaviors exhibited by familiar students with AD/HD to conceptualize and guide their ideas about stereotypical behaviors they believe to be indicative of AD/HD. Teachers then, may have basic recognition for conventional behaviors that tend to be related to AD/HD, but research indicates that they have little knowledge and more misconceptions about underlying characteristics and effective treatments for AD/HD symptomology. It is unclear what the relationship of teacher knowledge is with teacher attributions of AD/HD. Further research indicates that teachers tend to be more concerned with the challenging and difficult behaviors associated with AD/HD such as lack of impulse control, inability to listen and sustain attention, noncompliance with authority figures and directions, and lack of self regulation, than they are with the social impediments (Kauffman, Lloyd, & McGee, 1989). These research findings are consistent with the literature on attribution theory, in which individuals seek to interpret events, specifically when the event or behavior is something negative or disruptive (Heider, 1958). Teachers may pay more attention to the defining attributes of AD/HD that disturb their classroom environment and appear to be disorderly and aggravating. Thus, their knowledge and beliefs about the disorder center on these defining features.

Li (1985) demonstrated that teachers attribute more negativity and toward externalizing, acting-out behaviors than internalizing withdrawn behaviors. They have

less tolerance for externalizing problems. That is, teachers perceive the externalizing behaviors to be more difficult and to cause more problems. This is most likely due to the fact that internalizing disorders and problems cause less disruption in the classroom due to their covert nature, making them harder to identify. Furthermore, because externalizing behaviors consistent with AD/HD symptomology tend to be perceived as disruptive and irritating, teachers often feel less positive about instructing these students and having these students in their classroom (Kauffman et al., 1989). These findings have serious implications for teacher acceptability and willingness to implement interventions designed to treat students with AD/HD and AD/HD symptoms in the general education classroom. Teachers' expectations for classroom behavior of children with AD/HD and causes of those behaviors may be related to their willingness to integrate those students into general education and to assist in the treatment of those children using multimodal treatment packages that include a behavioral intervention. Once teachers perceive these unruly behaviors to be an internal and unchanging quality of the student, they are unlikely to be accepting of a treatment that alters the external environment.

Study of teacher knowledge, attitudes, and beliefs about AD/HD and the cause of typical AD/HD behaviors may inform teacher preference for specific treatments. The literature indicates that the attitudes teachers hold about students and students' behavior is often directly linked to their behavior toward that student (Tollefson & Chen, 1988; Georgiou et al., 2002). Therefore, teachers who believe that they have an accurate understanding of AD/HD may be less likely to ask for additional information regarding the disorder. However, the literature has shown that teachers' understanding and knowledge of the disorder is somewhat low (Sciutto et al., 2000). Parents often look to

teachers for meaningful and accurate information about their children with AD/HD, as well as information regarding effective treatments. Therefore, teachers may be giving inaccurate and incorrect information regarding diagnostic symptomology, underlying difficulties, and effective treatments to parents and others involved in working with the target child.

Labeling Bias: Effects of the Label on Teacher Attitudes and Perceptions

Children with disabilities such as AD/HD are currently being included in general education to a greater degree. Research on teacher attitudes towards the integration of these children with special needs into general education classrooms has demonstrated they are often negative toward these students and negative about their inclusion in general education (Center & Ward, 1987). A number of variables have been studied to determine which characteristics are related to and affect teacher attitude toward students with disabilities. One important variable may be the effects of labeling or diagnosing a student with a disability. Teachers' attitude and expectations about students are often based on information derived from other individuals or sources prior to meeting them, rather than direct observation (Rolison & Medway, 1985). One source of information may include labels applied to students as a consequence of assessment and evaluation. Teacher attitudes towards a student may differ depending on whether or not a student has been diagnosed or not. Consequently, teachers may have more negative attitudes towards a student with disruptive behavior who has been diagnosed with some disorder, than towards another student with the same problematic behavior who has not been diagnosed or labeled with a disorder. Labeling bias or the effects of labeling are defined as the difference in teachers' opinions, interpretations, and evaluations of different targets

contingent upon which group the target individuals belongs (Jussin, Nelson, Manis, & Soffin, 1995).

Past research suggests that applying a disability label to children results in lower expectations from teachers (Thelen, Burns, & Christiansen, 2003; Rolison & Medway, 1985). The particular label may also impact teacher expectations of specific behaviors that will be exhibited by the student (Allgozzine, 1981; Allgozzine, et al., 1977). Educational programs and districts often utilize categorical classification systems for children with disabilities and exceptional needs. These systems require students to be labeled with a specific disorder or disability under special education legislation in order to receive any type of necessary services. Students with AD/HD are often labeled in order to receive services that allow them to be more successful in school and in the classroom. Furthermore, inadvertent negative effects have been found to result from labeling students with a disability (Rolison & Medway, 1985). For example, the labeling features of classification systems have been shown to lower teacher expectations for these students (Rolinson & Medway, 1985; Thelen, et al., 2003). Labeling bias has also led to unconstructive models of self-fulfilling prophecy, learned helplessness in students, and specific attributions that occur as a result of the label (Burns, 2000). Finally, assigning a label to a student may impact teacher attributions, and in addition, labeling bias and attributions may have some combined effect on teacher expectations, perceptions, and attitudes (Burns, 2000; Rolison and Medway, 1985).

Effects of Label on Attributional Ratings

Studies investigating the effects of labels or diagnoses on teacher attitudes and perceptions often investigate multiple factors. For example, Stinnett, Crawford, Gillespie,

Cruce, and Langford (2001) examined teacher perceptions of a hypothetical student with AD/HD. All other factors were held constant across vignettes. Teachers read a scenario of a student who was either labeled or not labeled AD/HD. In addition, the treatment was also varied. Special education versus stimulant medication (Ritalin) was presented. Using the Teacher Rating Scale (TRS), the results indicated that students diagnosed with AD/HD received less negative judgments of Social Problems, as rated on the TRS, than students in the non-label condition, despite the fact that all other conditions for the student were held constant (Stinnett et al., 2001). The researchers reported this difference in judgment based on the label condition to the controllability attribution. That is, teachers may perceive students with the label of AD/HD to have less control, or less "personal responsibility" over certain behavioral difficulties (Stinnett et al., 2001). The non-labeled student, then, is given more negative judgments since that student has control over engagement in problematic behaviors.

These findings have significant implications for teacher attributions of students with problematic behaviors and with AD/HD. Consistent with past research (Georgiou, 1999; Tollefson & Chen, 1988; Weiner & Graham, 1986), labeling a student with a disorder, or as a low achieving student, may elicit attributions from teachers that affect teacher behavior. When behaviors are seen as out of a student's control, they may be viewed as unchanging and thus immune to behavioral intervention and treatment. These findings are consistent with research discussed earlier on teacher's knowledge of learning disabilities and how that knowledge impacts whether they rewarded or punished the child (Clark, 1997). In both studies, it appears that teachers take more pity on the student with AD/HD, are perceive the student's behavior to be unchanging and out of the student's

control. These perceptions of students labeled with a disability have implications for teacher behavior toward that student, and teacher acceptability of specific treatments for those students.

Rolison and Medway (1985) investigated the interaction effect of label and attribution on teacher expectations for students with or without a disability. Using hypothetical scenarios to describe a student labeled learning disabled, mentally retarded, or no label, participants were provided with information from the student's cumulative file. The participants were informed whether the child had attended special education in the past and district-wide testing results of student achievement. The results indicated that overall, teachers reported internal factors to have more influence on student performance and achievement than external factors (Rolison & Medway, 1985)

Recently, researchers have proposed theoretical explanations that focus on the effects of special education labels on teacher attributions of these students. Burns (2000) points out that special education labels are authorized by federal law, yet they have no neurological basis and may cause biases that may lead to learned helplessness in the child. Burns (2000) suggests that special education labels are likely to be attributed to internal sources that are stable and out of the student's control. Therefore, although there is limited evidence that neurological deficits or dissimilarities exist among students labeled with a disability, they may be perceived nevertheless to be caused by internal factors or deficiencies. Because the internal and neurological makeup of an individual is difficult to change, these problems may seem difficult to treat. Furthermore, if these problems are perceived to be stable, occurring over time, and uncontrollable, the likelihood that a teacher will perceive intervention to be successful seems minimal.

Additionally, Burns (2000) states that these particular attributions may lead to learned helplessness on the part of the student if they make faulty self appraisals.

Burns (2000) also posits that disabilities and intelligence are often perceived to be internal and stable. This particular attributional combination has been linked to learned helplessness in the individual who makes these attributions about herself or himself. Burns (2000) proposes that it is the stability aspect of this attribution that may be related to learned helplessness. Stability is thought to create stronger feelings of failure and less hope for change in the future (Weiner, 1985). Therefore, students who are labeled with a disability may be perceived by others, and may learn to perceive their label as internal and stable, thus unchanging and untreatable. Burns (2000) states that one possible reason that special education has proven globally to be an ineffective intervention may be "because it is dependent on labeling students with assumed disabilities" (p. 105).

Often times, students receiving labels receive necessary services that allow them to be more successful in school. Although diagnosis should never be contingent upon those services the student will receive, diagnosis may lead to appropriate and beneficial treatment for many students with disabilities. For example, students with multiple disabilities consisting of mental retardation and physical disabilities may be assigned this label and as a result, receive services that allow him or her to function more independently or successfully in school. When a label or diagnosis is appropriate, it is assumed that the student will receive services in which will rehabilitate or improve functioning in some manner. In some cases, the educational placement, treatment, or intervention matches the behavioral and educational needs of the student, thus indicating a positive effect of the label or diagnosis.

Effects of Label on Expectations and Attitudes

Labeling continues to be a debatable topic in education, with many believing that labels highlight a student's capacity, ability, strengths, and weaknesses, and provides insight to acceptable and appropriate treatments and interventions for that student conditional upon the designated diagnosis. Those that oppose the use of labels have argued that labels may elicit false impressions regarding a child's assets and weaknesses, and may serve to prejudice teachers and other individuals against the student's actual ability. Additionally, these critics argue that labels hold little to no treatment validity, meaning the label says little about how to intervene or help the child. Furthermore, the label may hinder individuals from the actual behaviors in the student that are being targeted for treatment and change. Labels may provoke harmful stereotypes and bias that would not be present in the same child without the assigned label. Past research has sought to examine the difference in teacher attitudes and perceptions towards students with labels and without labels (Algozzine, 1981; Thelen, et al, 2003). In addition, teacher expectations of students based on whether or not the student is labeled with a special education disability have also been investigated.

Thelen et al. (2003) investigated the effects of labels on teacher expectations, looking specifically at teacher perceptions of the labels learning disabled, mild mental retardation, and emotional disturbance. Teachers read hypothetical scenarios of a student with either one of these designated disabilities, or no label. Results of this study indicated that those teachers that read vignettes about a labeled student rated these students lower on behavioral and academic dimensions. This is consistent with research done by Johnson and Blakenship (1984) in which pre-service teachers watched two different

videotapes of an average student. In one of these viewing conditions, subjects were told that the student was “behaviorally disordered”, while in the other they were told nothing. Subjects rated the student labeled with the behavioral disorder more negatively on the Behavior Problem Checklist (Johnson and Blakenship, 1984).

Label appropriate and label inappropriate behaviors have been investigated to determine their effects on teacher expectations (Algozzine, 1981; Algozzine, Mercer, & Countermine, 1977). The type of label may impact behavioral expectations that teachers have for students. Algozzine (1981) examined the effects of two different labels, learning disabled and emotionally disturbed, on pre-service special education teachers expectations for student behavior. Subjects read one of four case studies in which the label was matched with either behavior indicative of that label, or behavior indicative of the other label being studied. The investigators found that subjects who read case descriptions of emotionally disturbed behavior being exhibited by learning disabled students found this behavior to be more disturbing than subjects that read descriptions of students labeled emotionally disturbed who exhibited ED behaviors. Furthermore, subjects were specifically concerned when LD children exhibited aggressive and disruptive behaviors, but reported being more “accepting” of these behaviors in students labeled ED (Algozzine, 1981). Results of this study suggest that students with certain labels are expected to exhibit certain types of behaviors and those behaviors may even be more tolerable when they correspond with the diagnostic or educational label.

Algozzine et al. (1997) also conducted studies with teachers investigating the same labels, learning disabled and emotionally disturbed. The results for teacher expectations were similar to those found in the preceding study with pre-service special

education teachers. Teachers indicated that emotionally disturbed behaviors (aggression, classroom disturbances and disruptions) were less tolerable and accepted when they were present in students labeled learning disabled (Algozzine et al., 1977). The fact that these behaviors are reportedly more acceptable, tolerated, and expected in students labeled emotionally disturbed has important implications for teacher behavior. Algozzine et al. (1977) suggest that "labels may generate restrictive tolerances for acceptable behavior" (p. 131). Bearing this in mind, when teachers expect labeled students to exhibit specific behaviors as a manifestation of their labeled disorder, their resulting attitude of tolerance and acceptance of those behaviors may imply that they attribute these behaviors to internal and uncontrollable causes on the part of the student. This may have important implications and effects on teacher acceptance of ecological interventions, as well as teacher willingness to alter their behavior in order to improve student functioning.

Prognostic outlook, or belief about the likelihood of student success in the future, has also been studied in relation to labeling bias. Fox and Stinnett (1996) investigated the differences in individuals' beliefs about the likelihood of failure or success of students based on their diagnostic label. Those diagnostic labels utilized in this study included conduct disorder, socially maladjusted, seriously emotionally disturbed, and no exceptionality. Most notable in this investigation is that subjects included individuals from a variety of professions including school psychologists, special and regular education teachers, and undergraduate students. The results indicated that the diagnostic label seriously emotionally disturbed elicited more pessimistic outlooks about the likelihood of success (Fox & Stinnett, 1996). These results are consistent with past research investigating the effects of labeling students on teacher expectations. Levin,

Arluke, and Smith (1982) also found that out of four labeling conditions, emotionally disturbed, dyslexic, mentally retarded, or no label, only emotionally disturbed reduced confidence for future success of the student.

Because more and more students with disabilities are currently being included in general education, more research designed to investigate teacher perception of students with disabilities in the general education classroom is being conducted. Weisel and Tur-Kaspa (2002) investigated the effects of labeling and personal contact with these students on teacher attitude. Specifically, teacher attitude towards two low-achieving groups of high school students was examined. One group was placed in general education classes while the other group received special classes in the same school. The results of this study indicated that although the label of "special class" had a positive effect on teachers' attitudes, contact with these students resulted in a more negative attitude on the part of teachers (Weisel & Tur-Kaspa, 2002). These results have implications for the perceptions of general education teachers about appropriate placement for students with special needs.

General education teachers may feel that they cannot effectively treat, help, or teach these students, thus, these students belong in special education classes. These perceptions may be linked to teacher attributions of students. If teachers attribute student ability to be internal, stable, and unchanging (out of the student's control), then they are likely to believe that special services will be more effective for those students. Another finding in the Stinnett et al. (2001) study relates to teacher perceptions of students based on the label. Despite the fact that all variables in the vignettes were held constant, teachers rated a student labeled AD/HD with more attention difficulties than a non-

labeled student, even though students in both vignettes were placed in special education. In another study, labeling a student AD/HD may cause teachers to interpret that student as having greater attentional difficulties.

Effective Treatments for AD/HD and Treatment Acceptability

Because teachers and parents are often responsible for the treatment and management of children with AD/HD, it is important to investigate successful interventions for this disorder. It is also important to understand how teacher attributions and knowledge towards children with AD/HD influences their behavior in terms of treatment implementation and acceptance. For example, if a teacher believes that AD/HD and those behaviors indicative of AD/HD are caused by internal characteristics of the child, then the teacher may be less willing to implement psychological interventions, specifically effective behavioral treatments, in the general education classroom, despite overwhelming evidence that these interventions are highly effective in modifying disruptive behaviors. Research indicates that when tested about their knowledge of different areas pertaining to AD/HD, teachers knew the least about treatment (Sciutto et al., 2000; West et al., 2005). It is important that parents, educators, and all school personnel be conscious of and promote the use successful, multimodal intervention packages for both home and school environments. Empirical research has pinpointed the most effective treatment for AD/HD to be a multimodal treatment which includes some form of psychostimulant medication (mythylphenidate), combined with a behavioral intervention/ treatment involving contingency management (Barkley, 2006; Conners, et al., 2001; Dupaul & Weyandt, 2006; MTA Cooperative Group, 1999;). Furthermore, multimodal treatment is optimally successful when the behavioral strategy is

implemented across settings, both at home and in the school environment (Barkley, 2006).

Because teachers play an enormous role in the success of these treatment packages, it is important to understand their attributions about the causes of behaviors related to AD/HD in order to better understand their rationale behind agreeing or refusing to implement specific treatments. Multimodal treatments in general refer to a treatment for AD/HD symptomology that includes the combination of medication, behavioral intervention, and some accommodation of the educational environment. This "multimodal treatment protocol" has proven to be more effective than a unimodal treatment involving only one of the treatment option, either psychostimulant medication or behavioral intervention. Multimodal treatments for AD/HD combine classroom modifications and intervention, parent training, medications (when appropriate), and other necessary interventions such as social skills training, training in problem solving strategies, and one-on-one therapy (Abramowitz & O'Leary, 1991; MTA Cooperative Group, 1999). There are also a number of benefits related to multimodal treatments, such as a greater decrease in oppositional behaviors, and a less invasive form of treatment in terms of medical side effects. Unfortunately, a lack of cooperation between schools, parents, and psychologists often inhibits the effectiveness of the multimodal treatment protocol. Research pertaining to attributions of the causes of problematic behaviors may shed light on preferences and willingness towards specific treatments.

Stimulant Medications

Stimulant medications have been shown to be effective in alleviating problematic behaviors associated with AD/HD. However, there are a number of reasons that stimulant

medications and behavioral interventions should be compared and studied for their effectiveness in treating AD/HD symptomology and problematic behaviors. First, stimulant medications have been shown to produce adverse and harmful side effects in children and adults. The Food and Drug Administration (FDA) recently voted to recommend a black-box warning on stimulant drugs designed to treat AD/HD (Nissen, 2006). A black-box warning, or black label warning, is the strongest type of warning that the FDA may apply to prescription drugs that cause severe adverse effects. When applying a black-box warning, the FDA has indicated that numerous medical studies have been conducted with the findings that the drug being tested carries significant and even life threatening side effects. Those drugs included in this review consisted mostly of amphetamines such as Adderall, and methylphenidate (Ritalin, Concerta). The black box warning should be recommended due to the number of cardiovascular risks associated with these stimulant drugs.

The major compounds in these stimulant drugs exercise strong stimulant effects on the cardiovascular and central nervous systems (Nissan, 2006). Frequently reported side effects of stimulant medications include insomnia, reduced appetite, mood changes, weight loss, irritability, increased heart rate, stomachaches, and headaches (Brown & Sawyer, 1998). Other less common side effects that have resulted from the use of stimulant medications include major depressive episodes, nausea, hives, psychosis, impaired liver functioning, and dizziness (Brown & Sawyer, 1998). When given in large dosages, stimulant medications have been known to cause tics and are associated with compulsive behaviors. The most common side adverse side effect of stimulant medication appears to be insomnia (Brown & Sawyer, 1998). In one study, more than 50

percent of children diagnosed with AD/HD who were being treated with stimulant medication (methylphenidate) developed insomnia (Barkley, McMurray, Edelbrock, & Robbins, 1990). Despite the risks and side-effects associated with these medications, parents most often report using stimulant medications as the primary treatment for their child with AD/HD (Johnston et al., 2005).

Effects of Multimodal Treatments for AD/HD and Behavior Problems

Research has demonstrated that the most common trouble associated with children with AD/HD is poor school outcomes consisting of retention, and an increased likelihood of dropping out (Barkley, 2006). However, research does not consistently indicate an improvement in academic and social functioning with the use of stimulant, psychotropic medication as the sole, unimodal treatment for children and adolescents with AD/HD. Many studies have found that there is almost no enhancement in academic performance (DuPaul & Rapport, 1993; Brown & Sleator, 1979; Rapport, Denny, DuPaul, & Gardner, 1994; Sulzbacher, 1972). Conversely, in order to target all problematic behaviors associated with AD/HD, treatment packages must target and involve multiple areas, the behavioral, academic and social functioning of the individual, as well as multiple settings and persons involved such as the target individual (student), the parents and home setting, and the teachers and peers in the school setting (Barkley, 2006; DuPaul & Stoner, 2003). Teachers, therefore, must be open to and willing to partake in the treatment and intervention process in order to maximize effectiveness of interventions for children with AD/HD. For this reason, it is imperative that alternative forms of treatment and intervention designed to target problematic behaviors related to

AD/HD be investigated for the purpose of implementing effective interventions with little to no negative side effects.

Empirical research has demonstrated that alternative options, namely behavioral interventions, are highly effective at reducing these behaviors. Behavioral interventions have been proven to be highly effective, not only when employed across settings, at home and at school, but also when used in conjunction with educational accommodation (Dupaul & Stoner, 2003; MTA Cooperative Group, 1999; Ota & Dupaul, 2002; Pfiffner, Barkley, & DuPaul, 2006; Weyandt, 2001). In addition, when used in combination with stimulant medication, behavioral treatments have shown that a lower dosage of medication may be required, thus reducing some of the possible adverse side effects of those medications (MTA Cooperative Group, 1999). Thus, it is crucial that empirically-supported, multimodal interventions for students with AD/HD be researched and discussed in order to obtain the most advantageous treatment for this population.

The Multimodal Treatment of AD/HD (MTA) study completed in North America is currently the largest study comparing the effectiveness of various treatment methods on reducing problematic behaviors in children with AD/HD (MTA Cooperative Group, 1999). The purpose of this study was to compare intensive medication management, rigorous behavioral treatment, the combination of medication and behavioral treatment, and "treatment as usual" in children evaluated for and diagnosed with AD/HD. This study was performed at multiple locations using a sample of 579 children aged 7 to 10 years old, all diagnosed with AD/HD. These children were randomly assigned to one of four treatment conditions. These conditions involved a group receiving stimulant medication (some form of methyphenidate), a second group receiving multiple behavioral

interventions implemented across settings (at home, at school, and at summer camp), a third group receiving both stimulant medication and the comprehensive behavioral intervention, and a control group receiving community care treatment.

The medication group received controlled treatment implemented by trained professionals and pharmacotherapists who provided support and practical advice about dosages. Those groups receiving the complete behavioral intervention received parent training, bi-weekly teacher consultation for school based intervention implementation, and child-focused treatment. Parent training consisted of individual sessions with the family. For child-focused treatment, children attended a summer program in which they received interventions consisting of a token economy, time out, social reinforcement, modeling, problem solving, and social skills. The school based intervention targeted the teacher's classroom management skills and a daily report card designed targeting reinforcement of academic behavior. The control group also contained a number of subjects (67%) receiving stimulant medication, but not in the same controlled manner as the first treatment group (MTA Cooperative Group, 1999).

Results indicated that every group demonstrated a decline in their problematic AD/HD symptomology during treatment. The first and second groups, those receiving just medication and medication and behavioral interventions combined, accomplished the greatest reductions in symptoms. The most significant finding of this study deals with the comparison of the medication group to the combined treatment (medication and behavioral intervention) group. The combined treatment and medication management did not significantly differ their effectiveness for core AD/HD symptoms. However, in terms of oppositional behaviors and social performance difficulties, those children receiving the

combined, multimodal treatment demonstrated the greatest decline. Furthermore, the children in this multimodal group also needed a "lower mean dosage" of medication than did the children receiving medication only (MTA Cooperative Group, 1999, p. 1078).

There was also a small effect size separating the behavioral intervention only group and the community-care control group. Nevertheless, many of the participants in the control group were receiving stimulant medication as part of their prescribed community care treatment. Therefore, one may argue that thorough behavioral intervention implemented across settings (home and school) appears comparable to unimodal-medication only treatment in reducing disruptive behaviors associated with AD/HD. The researchers point out that medication is proven to be effective in decreasing negative peer interactions. However, medication does not appear to enhance or increase positive social behavior. For these target behaviors, it seems necessary to incorporate a behavioral element to the treatment package for AD/HD (MTA Cooperative Group, 1999).

The execution of this multimodal treatment package at a minimum would require teachers, and other school personnel to be accepting of the procedures. Knowledge about the treatment and their effectiveness may also be important. Additionally, teachers need to be willing to put forth the required effort to implement these interventions with the highest integrity. It seems logical that when individuals working with students with AD/HD attribute those problematic behaviors associated with the disorder to internal forces on the part of the student, they will be more likely to advocate the use of stimulant medication for treatment. However, when teachers, and other individuals involved in the treatment of children with AD/HD, understand the involvement of external forces in

maintaining disruptive and problematic behaviors, they may be more open to implementation of effective behavioral interventions. Because the implementation of behavioral interventions has been linked to a decrease in the dosage of harmful stimulant medications, the use of these treatment packages seems both valuable and indispensable.

School-Based Interventions for AD/HD and Behavior Problems

Research has identified a multimodal protocol consisting of behavioral interventions implemented across settings combined with stimulant medication as the most effective and superior treatment of AD/HD symptomology. Numerous academic and behavioral interventions have been designed to treat children with AD/HD in the classroom (Ayllon, Layman, & Kandel, 1975; Robinson, Newby, & Ganzell, 1981; Pfiffner & O'Leary, 1993; Kelley, 1990; Dunlap, et al., 1994; DuPaul, et al., 1998; DuPaul & Eckert, 1998). Because teachers are likely to come into contact with a student with AD/HD, it is important to be informed about effective interventions used to alleviate difficulties associated with AD/HD. In terms of school-based treatment packages, a number of factors should be present to maximize success of the student and reduce interfering difficult behaviors targeted for reduction. School-based interventions have been shown to be most effective when both proactive and reactive behavioral techniques are executed. The use of these proactive, preventative strategies in combination with reactive techniques are shown to be the most successful interventions, particularly when used in conjunction with positive reinforcement. Proactive behavioral techniques are designed to alter specific environmental contingencies that occur before the targeted problem behavior. As a result, the behavior will not occur or will decrease. Therefore, some antecedent condition or stimulus must be changed or modified to decrease

problematic behaviors, and/or increase positive, more desirable behaviors. Examples of empirically-based proactive interventions for AD/HD include choice making, classwide interventions, instructional choice, and classwide peer tutoring (Dunlap et al., 1994; Dupaul et al., 1998; Harlacher, Roberts, Merrell, 2006).

Reactive treatment strategies involve the converse strategy, that is, they alter some environmental contingency directly following the target behavior to change the frequency with which that behavior occurs. Reactive interventions, therefore, utilize some type of consequence for the target behavior, such as a verbal reprimand (Dupaul & Weyandt, 2006). These empirically-based interventions include response cost, self-management strategies, reminders/reprimands, and token reinforcement (Ayllon, Layman, & Kandel, 1975; Kelley, 1990; Pfiffner & O'Leary, 1993; Robinson, Newby, & Ganzell, 1981). Reactive treatment strategies have been shown to decrease target behaviors, specifically when implemented in conjunction with proactive intervention strategies that increase some desirable behavior. Additionally, because students with AD/HD are often at risk for academic difficulties, interventions must be designed to target problematic behaviors, as well as academic problems and underachievement. Those behaviors indicative of AD/HD such as inability to sustain attention may be related to poor academic achievement on the part of many students with AD/HD. For example, these problematic behaviors may be related to poor work completion and work productivity.

Academic and Behavioral Interventions

Although the most effective school-based interventions have been shown to be a combination of both proactive and reactive strategies, teachers often partake exclusively

in the reactive approaches (Dupaul & Eckert, 1997). These approaches are often punishment-based procedures designed to decrease disruptive behaviors associated with AD/HD. Because reliance on punishment-based interventions is often unsuccessful in treating students with AD/HD, it is important to include a strong proactive component (DuPaul & Stoner, 2003). Dunlap et al. (1994) found that proactive choice-making interventions which allow students to choose from a range of activities resulted in an increase in on-task behaviors in students with low on-task behavior and disruptive symptomology. Since students with AD/HD often demonstrate higher levels of off-task behaviors than their non-diagnosed classroom peers, another effective proactive intervention, peer tutoring, may be used for children with AD/HD. This intervention involves students working together on some type of assignment where a peer tutor will provide help and instructional feedback on the task.

Dupaul et al. (1998) investigated the effectiveness of this intervention for students with AD/HD. The results indicated that both teachers and students enjoyed the intervention, and the procedure was successful in decreasing behavioral difficulties, and increasing academic functioning (DuPaul et al., 1998). Furthermore, the effects of peer tutoring on student on-task behavior, off-task behavior, and fidgeting behaviors were measured. Results indicated that the mean percentage of on-task behavior increased significantly during treatment, and decreased significantly with the removal of the treatment phases. Additionally, the mean percentage of off-task behaviors for students with AD/HD during treatment phases resembled that of peer comparison students' percentages during baseline. Finally, during treatment phases, 13 out of 18 students

exhibited a reduction in percentage of fidgets. These percentages increased with the removal of treatment (Dupaul et al., 1998).

More recent interventions for students with AD/HD include classwide interventions. Classwide interventions can be defined as "any intervention used with the whole class, regardless of why the intervention was implemented (e.g. to benefit one students vs. the entire class)" (Harlacher, Roberts, Merrell, 2006, p. 7). These interventions may be academic or behavioral in nature. For example, a contingency management intervention could be implemented on a classwide level in which positive reinforcement is applied contingent on certain behaviors exhibited by the entire class (on task behaviors, staying in seat, raising hand) (Harlacher, Roberts, Merrell, 2006). These interventions may allow teachers to save time as they can be implemented to the whole class at once, as opposed to taking time out to target one child. Furthermore, classwide interventions prevent any one child from being singled out (Harlacher, Roberts, Merrell, 2006).

Reactive interventions are also successful when used in conjunction with proactive techniques and positive reinforcement. For example, a token reinforcement component involves earning some form of tokens (reinforcement in the form of stickers) for exhibiting some criterion behavior, such as academic engagement, maintaining attention, and decreased rates of hyperactivity and defiance. These tokens are translated into points which can be exchanged for tangible reinforcement such as desirable activities or toys. Two common forms of token reinforcement found to be effective for students with AD/HD involve the daily school report card and response cost. Daily report cards require students to meet some designated behavioral goal in order to earn points for

reinforcement (DuPaul & Stoner, 2003; Kelley, 1990). Response cost includes a cost component in which the student must return tokens for exhibiting specified problematic behaviors.

Effects of Intervention Versus Medication on Academic and Social Functioning

The Multimodal Treatment of AD/HD (MTA) study demonstrated that a combined treatment package (medication and behavioral treatment) required lower dosages of stimulant medication than medication alone treatment groups for desired behavioral outcomes, insinuating that multimodal treatment packages require a smaller intake of stimulant medication. There are also important issues relevant to academic functioning when considering required dosages for students with AD/HD symptomology. Earlier studies have suggested that doses of stimulant medications have differential influences on behavior and cognition or academic improvements. Lower dosages of medications appear to improve academic functioning, or learning, while higher dosages of stimulant medications seem to decrease disruptive behaviors (Brown & Sleator, 1979; Sulzbacher, 1972).

Many children with AD/HD are placed on stimulant medication to treat both academic and behavioral difficulties. Yet studies have shown consistent results in which children on stimulant medications show no improvements on standardized academic assessments (DuPaul & Rapport, 1993; Rapport, Denny, DuPaul, & Gardner, 1994). Research also indicates that behavioral interventions may be equally effective as stimulant medications in improving the child's overall functioning (Ayllon, Layman, & Kandel, 1975). Bearing in mind the possible negative side effects of stimulant medications, it seems more logical to treat these problematic behaviors with lower

dosages of medication in combination with behavioral interventions that target academic functioning.

Ayllon, Layman, and Kandel (1975) conducted a significant investigation of the effectiveness of a token reinforcement targeting the accuracy of reading and math responses on academic assignments in the classroom. Moreover, this study compared levels of hyperactivity during a medication treatment phase in which the students were administered methlypheniate (Ritalin, a stimulant medication used to treat AD/HD symptomology), during a non-treatment phase in which the medication was removed, and during a behavioral intervention phase in which token reinforcement was administered in the absence of stimulant medication. Specifically, the investigators collected two conditions of baseline data by measuring hyperactivity of children diagnosed as chronically hyperactive during medication and during the absence of medication (once the medication had been discontinued). When medication was removed, that is, when the children stopped taking the stimulant medication, their hyperactivity increased "from 20% to about 80%" (Ayllon, Layman, & Kandel, 1975). Token reinforcement, consisting of reinforcing students for correct academic answer in math and reading assignments, was then implemented under conditions in which the students were not taking medications. Ayllon and colleagues found that when the token reinforcement intervention was implemented for academic performance, during the "no medication" condition, the children's hyperactivity decreased to "a level comparable" to that when they were on Ritalin, "about 20 percent" (p. 6).

Simultaneously, the students' academic performance in math and reading improved approximately 70 percent relative to baseline. Token reinforcement was first

administered for math only, then during math and reading in the following phase. Thus, levels of student hyperactivity were similar during the medication only treatment phase and behavioral intervention only treatment phase. However, academic performance for reading and math, measured by percentage of correct responses, was significantly superior. Specifically, academic performance during the medication phase in math and reading combined consisted of 12 % correct, and 85 % correct in the behavioral intervention phase (Ayllon, Layman, Kandel, 1975). This research is consistent with additional literature indicating that stimulant medication has little effects on enhancing academic functioning for children with AD/HD.

In a similar study, Sulzbacher (1972) investigated the effects of medication on academic performance of hyperactive children in classrooms. Three students' performance was measured in math, writing, and reading. The researchers also measured disruptive behaviors such as talking out and out of seat frequency. These behaviors were measured under three separate conditions, placebo, five milligrams of stimulant medication (dextro-amphetamine), and ten milligrams of the medication. The results showed variable responses for each condition. Academic responses appeared to improve in the five milligram condition; however, there was great variation in academic performance under the ten milligram condition (Sulzbacher, 1972). Additionally, one child exhibited decreased rates of disruptive and hyperactive behavior under the placebo condition as compared to the medication conditions. Overall, medication seemed to alleviate problematic and hyperactive behaviors, but had little to no effect in improving academic performance (Sulzbacher, 1972). Furthermore, some research has shown that disruptive and hyperactive misbehavior may be effectively reduced when academic

performance is rewarded or when structured academic environments are imposed on the classroom (Ayllon, Layman, & Burke, 1972; Ayllon & Roberts, 1974).

Stimulant medication has been proven highly effective in decreasing negative peer and social interactions. Similar to the decrease in disruptive and hyperactive/impulsive behavior, medication has shown dramatic reductions in negative social interactions in children with AD/HD and disruptive behavior disorders. However, medication has not been shown to increase positive social interactions and behaviors (MTA Cooperative Group, 1999). Changes related to increased functioning in social activity and behavior requires the incorporation of a behavioral component in the treatment package. Although medication may effectively decrease problematic behaviors related to negative social functioning, it does not increase the accuracy with which children interact positively in social situations among peers, teachers, and family members. For this reason, it seems logical to incorporate behavioral interventions in order to teach children appropriate social behaviors.

Effects of Attributions on Treatment Preference and Acceptability

As previously stated, there is significant evidence to maintain that a biological source of AD/HD exists (Tannock, 1998). Additionally, the research also suggests that the use of psychopharmacological medications, specifically psychostimulants, is an effective choice of treatment for this disorder (DuPaul, Barkley, & Conner, 1998). However, this data does not contradict the impact and role that ecological and environmental factors play in understanding and treating the disorder. Previous research has focused on parental acceptance of behavioral interventions, which require alterations to the environment. That is, one or more environmental contingencies are modified, with

the intention and assumption that a positive behavioral change will occur in the designated subject. Because past research has found behavioral interventions to be highly successful on children with AD/HD (Ayllon, Layman, & Kandel, 1975; Kelley, 1990; Pfiffner & O'Leary, 1993; Robinson, Newby, & Ganzell, 1981), it is important to investigate what factors affect parents', as well as other personnel who work with children, acceptance of and willingness to implement these treatments. Additionally, children rely on these caretakers to provide them with assistance, support, and treatment when necessary. If teachers and parents responsible for children are unwilling to implement empirically validated interventions, it is important to investigate the variables that are involved in their resistance or compliance in order to understand the mechanisms that will increase acceptance and willingness to treatment.

Parental Attributions and Treatment Preferences

To date, there has been no research performed to investigate the link between teacher attributions of students with AD/HD using the three causal dimensions of behavior (locus, stability, controllability), and teacher preference for treatment and willingness to implement classroom interventions. Research has focused mainly on the relationship between parental attributions of AD/HD symptomology and parental preference or acceptance of specific treatments, mainly stimulant medication and behavioral interventions. Past literature has found evidence that the treatment of AD/HD is related to the attributions parents and children make about the causes of the behaviors and symptoms of AD/HD (Johnston, et al. 2005; Johnston, et al. 2000; Reimer et al., 1995; Whalen & Henker, 1991). Specifically, the attributions that parents make about the causes of their child's AD/HD behaviors and symptoms may impact their acceptance of

behavioral interventions and treatments. Previous research has focused on how parents' acceptability of behavioral interventions is prejudiced by the causal attributions they make about their child's behavior (Johnston et al., 2005; Johnston & Freeman, 1997; Reimer et al., 1995).

Reimer and colleagues (1995) found evidence that when parents attribute their child's AD/HD behaviors (inattention, hyperactivity, impulsivity) to physical causes, they were less likely to accept behavioral interventions as treatment for their children. Specifically, parents of children with AD/HD were given descriptions of behavioral interventions that a psychology team recommended they use to treat their child's behavioral symptoms. Following the description of treatments, parents were asked to fill out a survey assessing their acceptability of these treatments, and a survey assessing their attributions of their child's behavior. The results indicated a positive correlation between environmental attributions for behavior and acceptability of treatment, and a negative correlation between physical attributions of behavior and treatment acceptability. Furthermore, the magnitude of these attributions was analyzed, indicating that the more the parent attributed the child's behavior to physical causes, the less accepting they were of behavioral intervention. This relationship did not exist for the correlation between environmental attributions and acceptability, as this correlation remained "relatively stable" (Reimers, et al., 1995).

Johnston et al. (2005) found that parents' beliefs about attention-deficit/hyperactivity disorder were tied to their preference for treatments. These researchers found that parents were more likely to attribute the cause of their children's AD/HD to internal causes residing within the child. Parents also believed that the cause

of their child's behaviors were stable, and not very controllable by their child. Those parents that used internal and stable attributions to explain their child's behavior were more likely to use treatments and interventions that were not empirically supported. For example, parents reported using diets and vitamins, treatments that are thought to alter or impact the internal state of an individual, to treat those disruptive behaviors indicative of AD/HD. There is no empirical support that AD/HD is effectively treated with diets.

Stimulant medication as a treatment for AD/HD may also have an impact on attributions of the causes of children's behavior. When stimulant medications are successful in resolving behavioral problems such as hyperactivity, impulsivity, and inattention, it may serve to reinforce the attribution of those behaviors as internal to the child, as opposed to situational or environmentally controlled. Behaviors are likely due to a combination of internal and external stimuli; however, attributing a behavior solely to internal forces may limit openness to treatment options. Whalen and Henker (1976) proposed this hypothesis for children labeled "hyperactive" and displaying high levels of impulsivity, inattention, and irritability. They suggested that once these children began taking stimulant medications, behavioral improvements would be seen as outside of the child's control, and due to the medications. When children in this study were interviewed regarding their ideas about hyperactivity, they often responded that it is something one is "born with" (Whalen & Henker, 1976). Furthermore, when children were asked what may happen if they discontinued their Ritalin medication, common responses included that they would get into trouble, be expelled from school, or "go nuts" (Whalen & Henker, 1976). Results from these interviews indicate that improvements in behavior were attributed to medication. Children indicated that their behavior was an internal and

stable attribute with which they were born, and over which they had little control without medication that altered their internal states.

Teacher Acceptability of Interventions for AD/HD and Behavior Problems

Treatment acceptability refers to attitudes, assessments, and opinions of treatment and intervention procedures. In the context of education, treatment acceptability refers to the teachers' judgments of recommended intervention or treatment packages designed to target problematic behaviors. To date, few studies have investigated the effects of teacher attributions on treatment acceptability. There are no published studies investigating teacher attributions of students with AD/HD, and the relationship to treatment preference and acceptability. Because children with AD/HD require support and assistance from a variety of providers, i.e. parents, school psychologists, other mental health clinicians, and providers of learning services, it is important and necessary to investigate teacher willingness and acceptability for interventions in the classroom. The manner in which AD/HD related problems and behaviors are perceived by teachers will likely influence their openness toward particular treatments. Additionally, if a teacher does not accept the validity and effectiveness of a particular treatment, that teacher is likely to be unwilling to conduct the intervention in the general education classroom. School psychologists, and other professionals who treat children with AD/HD, often consult with teachers about effective methods of addressing overactive, impulsive, and inattentive behaviors. The recommendations these providers make are not always viewed as "socially valid", although they have been proven through empirically-validated research to be affective. Because psychologists often function as consultants to teachers when recommending

effective interventions and treatments for students, it is important to examine those factors related to treatment acceptability.

Research has demonstrated classroom-based behavioral interventions to be highly effective in treating AD/HD symptoms (Pelham, Wheeler, & Chronis, 1998). Since teachers are responsible for implementing these behavioral interventions, it is important to investigate those factors related to their ideas and beliefs about the effectiveness of those treatment packages. In terms of attribution theory, if a teacher believes that the child's AD/HD behavioral symptoms are mainly a manifestation of the child's internal disposition, which neither the child, nor the teacher has control, are stable and consistent, the teacher may be less willing to implement behavioral treatment for that child. Thus, the external and environmental variables that play a role in the maintenance and treatment of the disorder are being ignored and discarded.

The literature indicates that teachers may have a tendency to over-identify children in their classrooms with AD/HD (Glass & Wagner, 2000; Havey, Olson, McCormick, & Cates, 2005). In one study, 47 percent of the teachers surveyed reported that they believed AD/HD was caused by "mostly biological-chemical" sources within the child (Havey et al. 2005). In addition to reporting a belief in neurological and biological causes of AD/HD, teachers also report a preference for medication as the primary treatment for those children (Glass & Wagner, 2000; Havey, et al. 2005). Teacher attributions for the cause of AD/HD and those behaviors related to the disorder have implications for treatment. Research indicates that teachers often report a preference for treatments that include or even rely solely upon factors that alter the internal states of the child (Havey, et al. 2005), which may be due to their underlying causal attributions

for the behavioral symptoms. That is, when teachers view AD/HD symptomology such as inattention and hyperactivity to be caused factors residing inside the child, they also prefer treatments that alter those internal states. Research has demonstrated that some teachers believe that special diets, such as those low in sugar, will be effective in treating children with AD/HD (West, et al., 2005). Interestingly, one study investigated the differences in teacher treatment preferences between using positive or negative interventions to treat AD/HD when they have been provided with an explanation of misbehavior versus when they have not been provided with an explanation of the child's misbehavior. Results indicated that when given an explanation for the child's misbehavior, teachers were more likely to prefer a positive intervention such as a positive-point system over a negative intervention such as loss of privileges (Alderman & Nix, 1997).

Furthermore, the when given an explanation of the student's misbehavior, all explanations of behavior included some type of family difficulties that triggered or prompted the disruptive or negative behavior at school (Alderman & Nix, 1997). These findings have important implications relating to teacher attributions for behavior and their relation to treatment acceptability and preference. Familial problems are an external, environmental event that may serve to change or cause behavior, specifically, problem behavior. If this environmental situation is changed, the behavior may also change and improve. When given this element as part of an explanation for student misbehavior, teachers were more willing to intervene on the behavior using a positive intervention, as opposed to an intervention that used a punishment component. Therefore, the knowledge

that there was some external cause of behavior made teachers more accepting and willing to implement positive behavioral interventions.

Parents often seek advice and information from teachers regarding AD/HD, and effective treatments for AD/HD. Consequently, teachers may be asked to recommend successful and useful treatments and intervention packages to parents of children with AD/HD. In one study, 51 percent of the general education teachers surveyed reported that parents had asked them about the effects of stimulant medication (Kasten, Coury, Heron, 1992). It may be beneficial for teachers to be well educated about which treatment packages are most effective, as well as the side effects associated with treatments. Research investigating teacher knowledge of the effectiveness and side effects of stimulant medication indicates that they have limited knowledge and some misconceptions (Kasten, et al., 1992; Snider, Busch, & Arrowood, 2003). West et al. (2005) found that 38 percent of the teachers they surveyed were not aware that children may become very anxious after taking stimulant medications.

Despite overwhelming research that stimulant medication has no impact on improving academic performance, many teachers report that these medications will improve a student's academic functioning. Kasten et al., found that 62 percent of the special education teachers they questioned and 58 percent of the regular education teachers believed stimulant medications increased academic work. Although teachers in this study demonstrated limited knowledge of stimulant medications, 31 percent of the general education classroom teachers reported that they told parents to seek information from a doctor about stimulant medications for treating their child, while 32 percent of

special education teachers reported suggesting that parents look into using stimulant medications to treat their child (Kasten et al., 1992).

A preference toward implementing stimulant medications into treatment packages for children with AD/HD is likely moderated by a number of factors. Curtis, Pisecco, Hamilton, and Moore (2006) found that there may be a sociocultural impact on treatment acceptance. They investigated differences in treatment perception of teachers in the U.S. to teachers in New Zealand. The researches pointed out that there were significant differences between the educational systems in these two countries, namely that the U.S. employs a categorical model, while New Zealand uses an ecological model to identify students with disabilities. Therefore, New Zealand focuses more on environmental contingencies and events that exist to cause and maintain specific behaviors. Treatments in this particular system are less likely to focus on altering the internal states of the target child, and more likely to focus on changing those environmental and ecological variables. The researchers also point out that New Zealand promotes a more "non-categorical" model in which children receive services that are "needs-based" (Curtis et al., 2006).

Conversely, a categorical model utilized by the U.S. centers on identifying a child with a label that is thought to be indicative of some diagnostic disorder internal to the child. Although treatment of students labeled with disabilities is vastly moving towards behavioral based assessments and interventions, the identification of these disorders is still based on a diagnostic label which implies a biological or neurological internal deficit. The researchers in this study compared teacher acceptability and perceptions of four different interventions for a student with AD/HD, a daily report card, response cost, classroom lottery, and medication. The results of this study indicated that teachers in the

U.S. were more accepting of stimulant medication, and felt that medication was a more effective intervention than teachers in New Zealand. The researchers also point out that teachers in the U.S. found response cost to be more acceptable than teachers in New Zealand. One important point to consider is that teachers in New Zealand may be more open to implementing interventions if those proposing treatment conducted "additional needs assessments" before consultation, and if behavioral explanations were used as opposed to diagnostic language, since they employ a non-categorical, ecological educational system (Curtis et al., 2006). In addition, since New Zealand is a non-categorical system, these teachers may have less overall understanding about expertise in the area of AD/HD.

As discussed earlier, teachers tend to have a basic understanding of the common features of AD/HD, but less knowledge and understanding of the underlying diagnostic variables and features (Sciutto et al., 2000; West, Taylor, Houghton, Hudyma, 2005). For example, West et al. (2005) found that teachers scored lower on the Characteristics and Treatment subscale of the KADD-Q. Recent research on educators' perceptions of interventions for students with AD/HD indicated that teacher knowledge of AD/HD was negatively correlated with teacher belief in the effectiveness of classroom interventions (Graczyk, Atkins, Jackson, Letendre, Kim-Cohen, Baumann, McCoy, 2005). The researchers pointed out that teachers often obtain information about AD/HD from sources such as the media. Certain sources of information may portray an inaccurate and false perception of AD/HD, giving teachers both accurate and inaccurate knowledge of the disorder. Thus, teacher knowledge of AD/DH and the causes of behaviors related to AD/HD may be erroneous, and perhaps based on a medical model orientation that would

neglect to include environmental causes that may serve to instigate and enhance those disruptive and maladaptive behaviors.

Factors Related to Treatment Acceptability

A number of factors exist are related to teacher treatment acceptability, willingness, and integrity. Research has investigated factors that will affect whether or not a teacher finds a particular intervention acceptable, whether or not the teacher is willing to implement that intervention, and finally, whether or not a teacher actually implements the recommended intervention. Specific variables that have been found to have a large effect on teacher perceptions and behaviors toward treatment and intervention are the amount of time involved in the intervention, the severity of the behavior problem, ecological intrusiveness, and intervention type (Witt, 1986; Witt, Martens, Elliott, 1984). Although there has not been any research conducted on the topic, there is reason to believe that teacher attributions of the locus, stability, and controllability of student behavior will have an effect on their perceptions of a recommended treatment. Furthermore, teacher attributions of the student behavior are related to previously studied variables and factors related to treatment acceptability.

Time, Problem Severity, and Intrusiveness

In one study, Witt et al. (1984) investigated factors associated with teachers' judgments of behavioral interventions. These factors included the time involved in implementing the proposed intervention, the severity of the behavior, and the type of intervention. Previous research has consistently found that the more severe the problem behavior is, the higher the acceptability ratings from teachers (Elliott, 1988; Elliott, Turco, & Gresham, 1987; Kazdin, 1980). However, the proposed treatments in these

studies typically consisted of some type of reductive/negative behavioral intervention (time-out), stimulant medication (methylphenidate/ Ritalin), and painful contingent electric shock therapy. Witt et al. (1984) found a significant interaction between behavior problem severity and the amount of teacher time involvement. Specifically, low levels of teacher involvement were rated less acceptable for more severe problem behavior than for mild or moderate levels of problem behavior. Teachers may believe that when a behavior is more severe and disruptive, a more time-consuming intervention will be necessary to rectify and reduce the problem behavior, even when given empirical evidence to the contrary.

Although teachers report higher levels of acceptability for any treatment when the problem behavior is more severe, there may be underlying variables that are not accounting for these high levels of acceptance. For example, the teacher may feel that the behavior is so severe that it warrants intervention, but they may not realize that they will be required to implement some component of the intervention. Many teachers may operate under the assumption that treatment or intervention implies removal from the general education classroom. It is important to apply attribution theory to this research, as these perceptions will likely interact with the above variables. Specifically, teachers are likely to rate any intervention as acceptable when a given problem behavior is rated severe enough. However, when teachers attribute those problems behaviors to factors occurring within the child that are stable across time and outside of the child, and even the teacher's control, they will most likely believe that the behavior warrants more pervasive and intense intervention that the teacher is unable to give due to lack of skill, knowledge, or time.

In a review of teacher resistance to school-based interventions, Witt (1986) addresses the topic of ecological intrusiveness. Witt (1986) describes the importance of "behavioral regularity" in classrooms and schools, defining it as "a regular occurrence or nonoccurrence of a behavior or some series of behaviors". School-based, classroom interventions are likely to have some level of side effects in terms of disrupting behavioral regularity, thus inducing ecological intrusiveness on the classroom. For example, altering problematic behaviors, such as talking out, may require the teacher to alter her own behavior. This may be perceived by the classroom teacher to be too intrusive to her daily routine. Witt (1986) takes this concept a step further by using Hernstein's law of effect to describe the nature and extent to which classroom ecology may be disrupted. In line with this law, the effect of reinforcement to increase a target behavior may require larger amounts of reinforcement with subsequent endeavors to increase that particular behavior. The concept of ecological intrusiveness may be relevant to teacher acceptability for behavioral interventions in regards to problematic behaviors and behaviors associated with AD/HD. When teachers attribute problematic behaviors to internal causes, they may be less likely to accept and implement a behavioral intervention that alters ecological variables, and thus intrudes upon their time and their classroom routine.

Current Study

The current study seeks to examine the combined effects of labeling bias and teacher attributions of students with Attention Deficit/Hyperactivity Disorder, and how these attributions are related to teachers' acceptance of intervention in the general education classroom. Whereas previous research has focused on teacher attributions of

student achievement, and students with learning disabilities, no published studies to date have done so for students with AD/HD. Because AD/HD often affects a student's ability to perform in the classroom in terms of success, achievement, grades, and behavior, it is important to examine the willingness of teachers to treat and intervene upon these students. Additionally, most students with AD/HD perform best when instructed in the general education classroom. Because more and more students with AD/HD are being educated in the general education classroom these teachers are likely to be called upon to carry out increasing amounts of behavior modifications and other interventions. If these teachers are unwilling to implement these intervention plans due to their specific attributions of the student's performance, the student is unlikely to remain in the classroom. Furthermore, since past research has implicated that labeling students may effect teacher expectations (Algozzine, 1981; Rolison & Medway, Thelen, et al, 2003; Stinnett, et al., 2001) it is important to examine whether or not the label effects attributions and treatment preferences.

Extensive research has been done on the effectiveness of behavioral interventions and treatment for children with AD/HD (Ayllon, Layman, & Kandel, 1975; Dunlap et al., 1998; Dunlap et al., 1994; MTA Cooperative Group, 1999; Pfiffner & O'Leary, 1993; Kelley, 1990; Robinson, Newby, & Ganzell, 1981). Such interventions in the classroom may include a token economy, response cost, daily report cards, and providing social praise for positive behaviors. The current study seeks to investigate teacher attributions of children with AD/HD along the three dimensions, locus, stability, and controllability, and how these effect teacher preferences and acceptance of a designated treatment, either a behavior intervention consisting of work completion, or a psychopharmacology

medication (Adderall) designed to treat children with AD/HD. In addition, this study will also explore the relationship between labeling a student with AD/HD and attributions for the student's behavior, as well as treatment acceptability for the child. Since past research has indicated that labeling a child may affect teacher perceptions and attitudes (Stinnett et al., 2001; Weisel & Tur-Kaspa, 2002), it may be significant to assess teacher attributions as a function of the label.

To date, few studies have examined the relationship between the age of the student and treatment acceptability. The age of the child may affect teacher attributions, specifically in terms of stability. When assessing an older elementary aged child with behavioral problems, teachers may be more likely to rate the child's behavior as more stable. Conversely, the behavior of younger students may be viewed as more malleable and temporary. The effects of attributing a behavior or labeled disability either stable or unstable causes have been addressed in past research and have important implications for treatment acceptability. Burns (2000) addressed the issue of attributing intelligence and disabilities to internal and stable causes, and the possible consequence of creating learned helplessness in the student. Stable attributions implies that the behavior and future performance are constant and unchanging, thus stable attributions may be linked to less acceptance for behavioral, and even academic intervention. For this reason, it may be important to investigate the combined effects of labeling bias and age on teacher treatment acceptability.

The effect of labeling or diagnosing a child with a disorder may also have an effect on teacher treatment acceptability, and may also have implications for attribution theory. Children who are diagnosed with AD/HD are often given stimulant medications

to improve their behaviors in the classroom. As previously stated, these medications may have serious medical side effects, and are shown to have little impact on academic functioning. In some instances stimulant medication may serve to vastly improve problematic behaviors and may be a necessary treatment. However, research has shown that the use of behavioral intervention in combination with stimulant medication is not only the most effective and highly recommended treatment package, but also behavioral interventions, not medication, seem to serve to increase academic functioning (Ayllon, Layman, Kandel, 1975). Also important, research has demonstrated that using a combined treatment package may require lower dosages of stimulant medication then medication treatment alone (MTA Cooperative Group, 1999).

Some research has indicated that teacher attitudes toward integration of students with special needs into regular education classrooms are more positive when it does not require additional instruction or classroom management skills of the teacher (Center & Ward, 1987). Many children with attentional and behavioral problems, whether they are labeled or not, are referred to school psychologists and other professionals for consultation and intervention. The problematic behaviors of these children are often reduced and rectified with simple behavioral interventions, which are much less invasive than medication treatments. The indication of a special education label may not be valid or even make a difference for these children. For this reason, it is important to include the effects of labeling a student on teacher treatment preferences. Perhaps labeling a student indicates to teachers that the behaviors are internally caused, and thus implications for specific treatments arise.

When teachers perceive a disability to be caused by internal factors, such as the child's neurological functioning or genetic makeup, that are stable over time, and out of the student's control, they may identify that child as unchanging, and thus, unable to respond to intervention. If teachers believe that a student is unable to respond to an intervention, or resistant to intervention and treatment, they may be less willing to implement a behavioral intervention, since it appears to be a waste of time. In addition, teachers may be more accepting of psychopharmacological treatment for these children, since these treatments alter the internal state of the student. However, when teachers perceive a disability such as AD/HD to be caused by external factors, such as the environment, that are unstable, meaning that they do not occur constantly, and under the child's control, they are likely to be more accepting of intervention for the child.

Finally, the relationship between teacher knowledge of AD/HD, and teacher attributions of the disorder is unclear. Research indicates that teachers have a better understanding of the symptoms of AD/HD, but they have less knowledge regarding general information and treatment of the disorder (Sciutto et al., 2000). Teachers do not have accurate knowledge of these categories of information (Sciutto et al., 2000). Furthermore, knowledge of the disorder was linked to the likelihood that teachers had taught a student diagnosed with AD/HD at some point in their career (Kos, Richdale, & Jackson, 2004). Therefore, having been exposed to a child diagnosed with AD/HD may lead to expectations about symptomology and behaviors associated with the disorder. To date, there is no research examining the relationship between knowledge and attributions of AD/HD. Therefore, this research study seeks to answer the following questions:

1. Are there differences in attribution (locus, stability, and controllability) on the basis of label, child's age, and treatment type?
2. Are there differences in treatment acceptability and prognostic outlook, on the basis of label, child's age, and treatment type?
3. Do attributions of a child predict treatment acceptability?
4. Do attributions of a child predict prognostic outlook?

CHAPTER III

METHODOLOGY

Participants

Participants were 213 public school teachers from elementary schools in the Southwest. Teachers were asked to log onto a website where they could complete the study. The website presented the teachers the vignette case and three brief questionnaires to answer, as well as a short demographics survey.

Measures/Materials

A vignette describing an elementary school-aged boy with attention and behavioral problems was created. The behavior problems in the vignette were held constant for all participants, but label (attention-deficit/hyperactivity disorder or not diagnosed with attention-deficit/hyperactivity disorder) and age/grade of the child (six year old first grader, eleven year old fifth grader) were varied. Furthermore, a proposed treatment (work completion intervention, stimulant medication, or combined treatment) was also varied.

The problem behavior description indicated difficulties across settings (at home and at school) and time, and in the presence of teachers, parents, and peers. The vignette specified the effects of the child's attention and behavioral difficulties on classroom

attention and performance, social functioning, peer, parent, and teacher relationships, and work completion.

Intervention Rating Profile – 15 (IRP-15) (Martens, Witt, Elliott, & Darveaux, 1985). The IRP-15 is a measuring device often used to assess the acceptability of school-based behavioral interventions. The 15 items reveal one empirically derived general acceptability factor and the scale has outstanding internal consistency (alpha coefficient = .98) (Martens et al., 1985). Items on the IRP-15 are answered on a 6-point Likert format (1 = strongly disagree, 6 = strongly agree). Raw scores for each item are added to yield a general acceptability score. IRP-15 scores range from 15 to 90 with higher scores indicating higher treatment acceptability. The IRP-15 total score for treatment acceptability was used as the treatment acceptability dependent variable. The IRP-15 has frequently been used to evaluate school-based interventions.

Attributional Ratings. Items designed to reflect each of three causal attribution dimensions were developed. Participants were asked to make their attributions about the child in the vignette along those three dimensions. The dimensions were, locus, stability and controllability. These were rated on a 6 point Likert scale (1 = internal to 6 external; 1 = stable to 6 unstable; and 1 = under personal control to 6 outside of the child's control).

Prognostic Outlook (Fox and Stinnett, 1996). The Prognostic Outlook scale consists of nine evaluative questions designed to reflect the participants' judgment of the child's likelihood of future success or failure, the child's likelihood of further disruptive behavior, the likelihood of future problems in interpersonal relationships, and overall level of adjustment. Factor analysis of the items identified these three groups of items. No

items were cross loaded on other factors at <.30. The one exception was the last item overall adjustment, which did load on all 3 factors. These items are rated on a scale of 1 to 10, with "1" meaning extremely unlikely and "10" meaning extremely likely. Higher scores are indicative of better prognostic outlook than lower scores. Numeric values for each question are summed and those values are used for all further analysis.

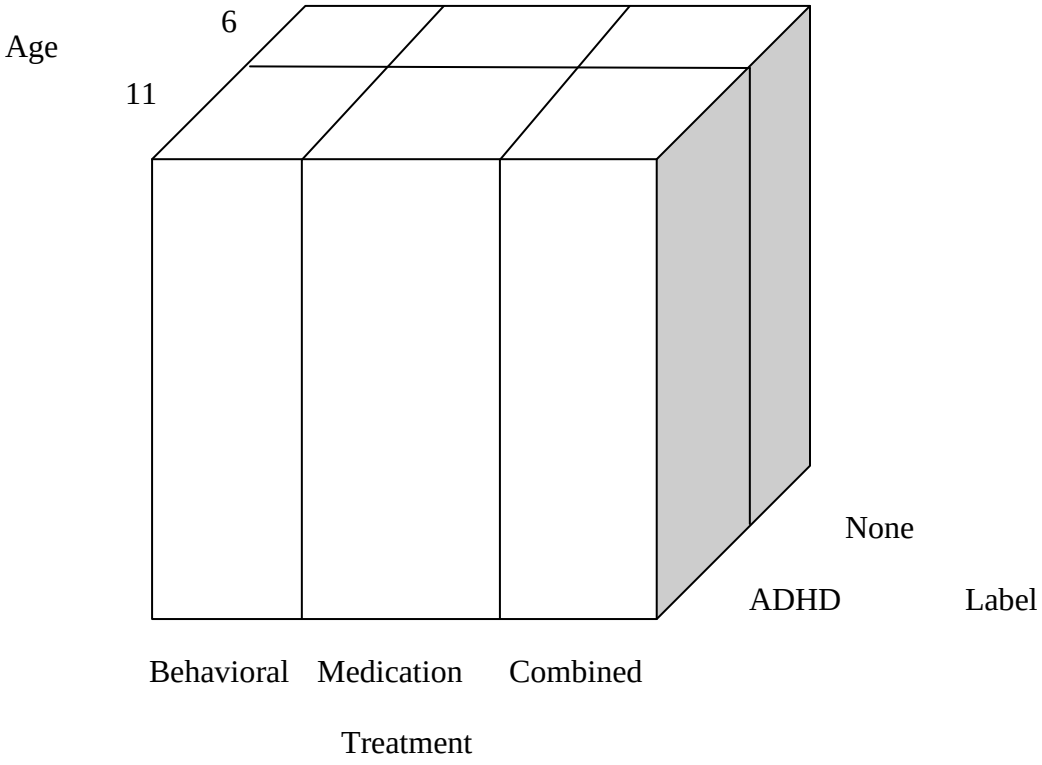
Teacher Knowledge Scale. The Knowledge about Attention Deficit Disorder Questionnaire is a 36-item scale measuring teacher knowledge of AD/HD (alpha coefficient = .81) (KADDS; Scuitto et al., 2000). Items on this scale reflect a statement about AD/HD. The participant was required to respond true, false, or don't know to each item. The three specific areas assessed by the scale include symptoms of AD/HD, general information about AD/HD, and treatment of AD/HD. This measure was included as a covariate, removing all variance associated with teacher knowledge of AD/HD.

Demographics Sheet. The demographics survey consists of seven short questions asking the participants to indicate their age, gender, level of education, the number of years of teaching experience, date of birth, and demographic information. Participants were also asked whether they personally had a child diagnosed with AD/HD. These questions were designed by the researchers for the purpose of this study.

Design

Participants were randomly placed into one of 12 cells based on the possible conditions of the independent variable conditions. Using a Java script random webpage generator, one of the 12 conditions was randomly generated from the informed consent page when the participants clicked on the "agree to participate" button at the bottom of the page. Participating teachers read about a child who is either 6 years old or 11 years

old, who had been diagnosed by a School Psychologist with AD/HD or who did not meet the diagnostic criteria for AD/HD, and who received either a behavioral intervention to target on task work completion in the classroom, medication, or a combination of both behavioral intervention and medication. Figure 1 below illustrates the factorial design.



Procedure

For each individual school, a mass email was sent to teachers providing them with the website address for the study, as well as information on procedures for participation. Participants were given the address of a website which directed them to the title page. Participants who went to the website first saw a webpage with a cover letter describing the purpose of the study. This cover letter served as the informed consent for the study and briefly described the requirements as well as the potential benefits of the study. Participants were also given the option to print the page for their own records. Directly

below the cover letter, participants were asked to click on an agree button if they choose to participate in the study, and a disagree button if they did not chose to participate. If participants choose to participate in the study, they were directed to the next webpage which randomly generated one of the 12 case vignettes, the four surveys, and a demographics information sheet.

Each generated vignette described an elementary school child with attention and behavior problems. Included in this description was information about whether or not the child had been labeled with attention deficit/hyperactivity disorder after being evaluated by a school psychologist, and the age of the student, either six years or eleven years of age. Also, there was a recommended treatment for the student, either a behavioral intervention recommended by the school psychologist consisting of work completion, medication recommended by a physician, or a combined medication/behavioral intervention.

Following the vignettes participants were asked to complete the scales for the dependent variables. The first scale was designed to reflect the participants' attributions of the student on the three dimensions: locus, stability, and controllability. Participants answered three questions, each pertaining to one of the attributional dimensions. The participants reported their responses to this question on a 6 point Likert scale. Next, the IRP-15 was presented assessed acceptability of the proposed intervention for the student in the vignette. Third, the participants responded to answer a brief prognostic outlook scale which assessed their judgment of the child's likelihood of future success or failure. Last, the Knowledge of Attention Deficit Disorder Survey was completed. Finally, the participants were presented with a demographics information sheet. The demographics

information sheet asked the participants to indicate their level of education, the number of years teaching, date of birth, and demographic information.

CHAPTER IV

FINDINGS

Hypothesis 1: There will be differences in attribution ratings on the basis of label, child's age, and treatment type.

Means and standard deviations for locus, stability, and controllability are reported in Table 1. Interpretation of the means of these variables showed that overall, the participants attributed the child's behavior to more internal, personal characteristics (almost completely due to internal causes; somewhat due to internal causes), and more stable and long lasting (almost completely stable; somewhat stable) regardless of the label, age, and treatment conditions. Additionally, visual analysis of the controllability variable means revealed that participants rated the student's behavior as being somewhat outside his control. Overall, the means across all conditions were approaching 4, indicating the student's behavior was somewhat outside of his control.

A preliminary analysis that evaluated the homogeneity of slopes assumption indicated that the relevance between the covariate (KADDS) and dependent variables differed as a function of the independent variable, $F(11, 212) = 3.13$, $p < .001$. Thus, use of the KADDS as a covariate was not appropriate. Results of the homogeneity of slopes

analysis are reported in Table 2. A three-way multivariate analysis of variance was conducted to determine the effect of the three factors label, age, and treatment on the three attribution dependent variables (locus, stability, and controllability). No significant differences were found between label, age, and treatment, and the measures of attribution. Results of the MANOVA are reported in Table 3.

Hypothesis 2: There will be differences in treatment acceptability and prognostic outlook, on the basis of label, child's age, and treatment type.

Means and standard deviations for the IRP-15 (treatment acceptability) and Prognostic Outlook scale are reported in Table 4. Interpretation of the means from the IRP-15 and Prognostic Outlook Scale show that the participants reported moderate levels of prognostic outlook and moderate levels of treatment acceptability regardless of label, age, and treatment type. Since the preliminary analysis evaluating the homogeneity of slopes assumption indicated that the relevance between the covariate (KADDS) and dependent variables differed as a function of the independent variable, $F (11, 181) = 1.91$, $p < .05$, the KADDS was not used as a covariate.

A three-way multivariate analysis of variance was performed to analyze the variables: Treatment Acceptability and Prognostic Outlook. There was a significant multivariate interaction effect, Wilk's $\Lambda = .931$, $F = (4, 360) = 3.256$, $p < .05$. Using η_p^2 as the measure of effect size, the interaction between label, age, and treatment accounted for 3.5% of the total variability in the dependent variables. Results of the MANOVA are presented in Table 5. Analyses of variance (ANOVA) were conducted as follow-up tests to the MANOVA. Results of ANOVA for the dependent measure treatment acceptability indicated there was a three-way significant interaction, $F (2, 181) = 4.32$, $p < .05$, $\eta_p^2 =$

.046. Results of ANOVA for the prognostic outlook dependent measure was also significant for a three-way interaction, $F(2, 181) = 3.30$, $p < .05$, $\eta_p^2 = .035$. Results of the ANOVAs are presented in Table 6. There were no other significant effects.

Post hoc analyses of the univariate ANOVA treatment acceptability variable and prognostic outlook dependent variables was completed by conducting simple, simple main effects. Graphs of the estimated marginal means of the treatment acceptability (IRP-15) and prognostic outlook measures indicated a number of significant comparisons. The graphs of the estimated marginal means for each dependent measure are presented in Figures 2-9. The graphs illustrate estimated marginal means for the prognostic outlook and treatment acceptability dependent variables for the 6 years old age condition, 11 years old age condition, label condition, and no label condition. Simple, simple main effect comparisons sought to establish which combination of levels of label, treatment, and age affected treatment acceptability and prognostic outlook scores most strongly. Thus, each graph demonstrates the dependent variable means with only one level of either the age (6 years old or 11 years old) or label variable (label or no label). This allowed the simple simple main effects to be detected.

The age variable was collapsed so that simple simple main effects were calculated for the 11 year old and 6 year old conditions separately. The simple simple main effects were calculated for all level combinations of label and treatment when the age variable was specified at 11 years old and when the age variable was specified at 6 years old. Levels of label were compared with each other for each level of treatment in the interaction, and levels of treatment were compared with each other for each level of the label variable. These analyses gave the mean difference, standard error, significance, and

confidence interval for each pair of levels for the effect that is specified in the command, as well as an omnibus test for that effect.

Next, the Label condition was collapsed in order to determine simple, simple main effects for the Label and No Label conditions separately. These comparisons sought to establish which combinations of age and treatment affected the dependent variables when the child was labeled AD/HD and when the child was not labeled AD/HD. Estimated marginal means of the dependent variables were then calculated for all level combinations of age and treatment when the label variable was specified at labeled AD/HD and when the label variable was specified at no label of AD/HD. Levels of age were compared with each other for each level of treatment in the interaction, and levels of treatment were compared with each other for each level of the age variable.

Treatment Acceptability Simple Simple Main Effects

For the 11 year old condition, two significant pairwise comparisons, or simple simple main effects, were found for the treatment acceptability dependent variable. Significant simple, simple main effects of the 11 year old condition of age are displayed in Table 7. Significant differences in treatment acceptability dependent variable were found between the work completion treatment and the medication treatment when the child was 11 years old and labeled AD/HD, with ratings of treatment acceptability for medication being significantly higher ($p < .05$). Significant differences were also present between the label and no label condition when the child was 11 years old and the proposed treatment consisted of medication ($p < .05$). Treatment acceptability for medication was significantly higher for the labeled 11 year old condition than for the no labeled 11 year old condition.

Two significant pairwise comparisons emerged for the treatment acceptability dependent variable when the child was 6 years old. The results of the significant comparisons for treatment acceptability when the cases were specified at 6 years old are displayed in Table 8. Treatment acceptability was significantly higher for the work completion interaction than for medication when the child was 6 years old and labeled AD/HD ($p < .05$). Significant differences were also found between the label and no label condition when the child was 6 years old and the proposed treatment was work completion interaction ($p < .05$). Specifically, ratings of treatment acceptability for the work completion interaction was significantly higher for the 6 year old labeled condition than for the 6 year old no label condition.

Two significant pairwise comparisons were also found for the treatment acceptability dependent variable when the child was labeled AD/HD. The results of the significant effects for the label condition are shown in Table 9. Treatment acceptability ratings were significantly higher for the 6 years old and labeled AD/HD child than for the 11 years old child who was labeled AD/HD when the work completion intervention was proposed ($p = .01$). Conversely, ratings of treatment acceptability for the medication treatment were significantly higher for the 11 year old child labeled AD/HD than for the 6 year old child labeled AD/HD ($p < .05$).

Prognostic Outlook Simple Simple Main Effects

Two significant pairwise comparisons were found for the 11 year old condition, and one significant comparison was revealed for the 6 year old condition. The work completion treatment and combined treatment were significantly different on the prognostic outlook measure when the child was 11 years old and labeled AD/HD ($p <$

.01), with the combined treatment producing higher ratings of prognostic outlook for the 11 year old labeled condition. Prognostic outlook ratings were also significantly higher for the label condition than for the no label condition when the child was 11 years old and the combined treatment was proposed ($p < .05$). Simple simple main effects for the 11 year old age condition are shown in Table 10. Finally, there was a significant difference between combined treatment and work completion on prognostic outlook ratings for the 6 year old no label condition ($p < .05$). Ratings were significantly higher for the combined treatment. Results of the significant simple simple main effect for the 6 year old condition of age are in Table 11.

Hypothesis 3: Attributions made about the child will predict treatment acceptability.

Past studies have revealed the three attribution dimensions of causality, locus, stability, and controllability, through factor or cluster analysis, multidimensional scaling, and correlations based on a priori schemes (Weiner, 1985). Because no *a priori* hypotheses were made to determine the order of entry of the three causal attribution variables, a direct method was used for the multiple linear regression analyses.

Regression analyses were conducted between the set of attribution variables and the treatment acceptability variable to determine the relationship between the predictor variables, causal attributions, and the criterion variable for each treatment condition (i.e. work completion, stimulant medication, and combined). Accordingly, three sets of regression analyses were completed so that the relationship between the participants' causal attributions and treatment acceptability of the designated treatment were assessed. The treatment variable was collapsed so that cases from one of the three treatment conditions were selected, and a regression analysis was conducted to evaluate whether

participants' attributions predicted their acceptability of the proposed treatment. Simultaneous or direct multiple linear regression was performed so that each of the three predictor variables, locus, stability, and controllability, were entered concurrently.

Work Completion

Descriptive statistics for the three causal attributions and ratings of treatment acceptability for the work completion intervention are reported in Tables 12 (Treatment Acceptability: $M = 63.17$, $SD = 13.5$). The three causal attributions produced an R^2 of .12 for the prediction of treatment acceptability of work completion. The zero order and semi-partial correlations were examined for each causal attribution variable. Results are reported in Tables 13.

Stimulant Medication

The mean and standard deviation scores for treatment acceptability and causal attributions for the stimulant medication condition are displayed in Tables 14 (Treatment Acceptability: $M = 60.43$, $SD = 16$). The three causal attributions produced an R^2 of .397 and an adjusted R^2 of .366 for the prediction of treatment acceptability of medication. Results of these findings are reported in Tables 15.

Combined Treatment

Tables 16 exhibit the descriptive statistics for the three causal attributions and treatment acceptability of the combined treatment (Treatment Acceptability: $M = 61.88$, $SD = 16$) as well as correlations. The three causal attributions produced an R^2 of .196 and an adjusted R^2 of .157 for the prediction of treatment acceptability of the combined. Results of this analysis are reported in Tables 17.

Hypothesis 4: Attributions made about the child will predict prognostic outlook.

Regression analyses were conducted between the set of attribution variables and the prognostic outlook variable. Simultaneous regression analysis was again performed so that each of the three predictor variables, locus, stability, and controllability, were entered concurrently. These analyses were run to determine the relationship between the predictor variables, causal attributions, and the criterion variable, prognostic outlook, for each treatment condition (i.e. work completion, stimulant medication, and combined). Consistent with the regression analyses for treatment acceptability, three sets of regression analyses were completed so that the relationship between participants' causal attributions and prognostic outlook of each treatment were assessed.

Work Completion

The means and standard deviation scores for prognostic outlook and causal attribution ratings of the work completion condition are exhibited in Table 18. The mean score for prognostic outlook of the work completion intervention indicates that participants rated the child receiving work completion in the mid-range for likelihood of success (prognostic outlook: $M = 5.58$, $SD = 1.35$). Locus, stability, and controllability produced an R^2 of .109 for the prediction of prognostic outlook of the work completion intervention. Results are reported in Table 19.

Stimulant Medication

Descriptive statistics for prognostic outlook and causal attribution ratings of the stimulant medication condition are presented in Table 20. Participants' ratings of prognostic outlook for the medication treatment were slightly higher than those for the work completion intervention (prognostic outlook: $M = 6.10$, $SD = 1.34$). Locus, stability, and controllability produced an R^2 of .238 for the prediction of prognostic outlook of the

stimulant medication intervention. The results of these analyses are displayed in Table 21.

Combined Treatment

Descriptive statistics of prognostic outlook and causal attribution ratings for the combined treatment condition are presented in Table 22. The three attribution ratings produced an R^2 of .06 for the prediction of prognostic outlook of the combined treatment. These findings were not significant. The results of these analyses are displayed in Table 23.

CHAPTER V

CONCLUSION

The Relation between Teacher Attributions and Label, Age, and Treatment

The purpose of this study was to examine teachers' prognostic outlook and willingness to accept treatments for students with attention and behavior problems. The first hypothesis examined teachers' attributions of a student with attention and behavior difficulties on the basis of label, age, and recommended treatment type were examined. It was predicted that attributional ratings would differ on the basis of label, age, and treatment type. Previous research suggested that parents of children diagnosed AD/HD were more likely to attribute problematic behavior to some internal force, rather than some external, environmental cause when compared to parents of a child not diagnosed with a behavior disorder (Johnston et al., 2006). Further, Johnston and Freeman (1997) found that parents of children diagnosed AD/HD were more likely to report their child's problematic behaviors as uncontrollable and more stable over time when compared to parents of children without behavior disorders.

It was hypothesized that teachers who read about a child diagnosed with AD/HD would attribute the child's behavior to more internal personal characteristics to teachers who read about a child who was not labeled AD/HD. Additionally, it was hypothesized that ratings of stability of the problem behavior (long lasting versus temporary) would differ as a function of age, with more stable ratings expected from groups who read about an

older child. Finally, when teachers read about a student diagnosed with AD/HD, it was expected that participants would rate the behaviors as outside the student's control. The type of treatment proposed was predicted to have an effect on attribution ratings. However, the results of this study found no differences in ratings of locus (internal attribution vs. external attribution), stability, or controllability on the basis of label, age, and treatment.

As a whole, participants attributed the child's behavior to internal causes that were stable and long lasting over time, across all conditions. Studies that have examined the link between the type of behavior in which a child engages and the attributions that parents make about these behaviors have found that parents often view their child's positive behaviors as caused by internal and stable factors (Johnston & Freeman, 1997; Joiner & Wagner, 1996; Miller, 1995). However, in terms of negative behaviors, parents of children with AD/HD are more likely to attribute negative behaviors to internal and pervasive causes (Johnston & Freeman, 1997). The data from this study indicated that participants attributed children's problem behavior to internal and stable causes regardless of the label and age of the student. As past research has indicated, the child's behavior may be a stronger predictor of attribution ratings than other factors such as age, label, and proposed treatment.

Although the label condition was varied in the vignettes so that some participants read about a child diagnosed with AD/HD and some participants read about a child who did not meet the diagnostic criteria, all vignette conditions stated that the child received an evaluation for AD/HD by a school psychologist. Participants' knowledge about this evaluation may have had an effect on their ratings of causal attribution. Research shows

that teachers often play a direct role in the referral process of children suspected of AD/HD, often being the first person to refer the child for evaluation (Pelham et al., 1992). Algozzine, Christenson, and Ysseldyke (1982) found that 92% of students referred for a special education evaluation were tested, and about 73% of those tested were declared eligible for special education. Because the participants in this study were teachers, they may have had an experience in the past in which they referred a student for testing and disagreed with a non-qualification outcome.

On the controllability Likert scale, participants' ratings were less consistent, however the means across all conditions were near ratings of "somewhat outside of the child's control". The vignettes in the current study were designed such that all behavior was held constant. The child's behavior included all symptoms of AD/HD consistent with the DSM-IV-TR for inattention and hyperactivity-impulsivity. Perhaps participants rated the child's behavior as outside of his control due to the severity of symptoms, regardless of the diagnosis/label. Severity of the child's behavior may have been a stronger predictor for attributions rather than the label condition. Research has consistently found a link between the severity of the problem behavior exhibited by a student and treatment acceptability ratings from teachers (Elliott, 1988; Elliott, Turco, & Gresham, 1987; Kazdin, 1980). These findings suggest the level of problematic behavior will influence teachers' perceptions of acceptable interventions. It is possible that behavior severity also has a similar effect on causal attribution ratings.

As other studies have indicated (Johnston & Patenaude, 1994), the current study suggested that inattentive-overactive behaviors are more likely to be considered outside of the child's control, or uncontrollable by the child, regardless of whether or not the

child is diagnosed with AD/HD. Stinnett et al. (2001) found that teachers applied less negative judgments to a hypothetical student diagnosed AD/HD and more negative judgments to a non-labeled hypothetical child. The researches credited these differences in judgment to the controllability attribution, such that teachers perceived students with AD/HD to have less control over certain behavioral problems.

Mash and Barkley (2003) suggest that children with AD/HD exhibit disinhibition, causing them to engage in defiant behaviors as a result of impulsivity. In this study, although the child was not labeled AD/HD in all conditions, his behaviors, which displayed extreme disinhibition and impulsivity, were consistent in severity across all conditions. Because the case description was held constant yet the child's behavioral functioning remained the same under all vignette conditions, this suggests that impulsive and unruly behaviors may be viewed as outside of the child's control, regardless of whether or not they meet the diagnostic criteria for AD/HD (i.e. whether or not the child is labeled). This emphasizes the notion that severity of the child's behavior impacts attributions of controllability more than a diagnosis or label.

The consistency in causal attribution ratings across condition is also in line with research directly investigating parental attributions for their own child diagnosed with AD/HD (Johnston et al., 2006; Johnston & Freeman, 1997). When judging behaviors of their child diagnosed with AD/HD, parents are more likely to indicate that the behavior was caused by some internal force, rather than an external environmental event (Johnston et al., 2006; Johnston & Freeman, 1997). In this study, the severity of the student's behavior in the vignette was significantly problematic enough to warrant an evaluation

for AD/HD. Perhaps participants' conceptualization of the severity of the student's behavior was affected by the knowledge of the evaluation.

Studies exploring the effects of teachers' beliefs about the cause of a student's problematic behavior indicate that teachers often attribute poor performance and misbehavior to internal factors (Christenson, Ysseldyke, Wang, and Algozzine, 2001). Further, a review of the literature suggests a theme in which teachers attribute student misbehavior to causes within the student more often and teacher factors least often (Ho, 2004). Christenson et al., (2001) also found that teachers attribute student problems to factors external to the school and classroom environment. Perhaps attributing difficult behavior or poor academic performance to personal attributions is a result of assigning blame.

Research has shown an association between teachers' causal attributions of student behavior and the type of disciple they use (Bibou-Nakou, Stogian-nidou, & Kiosseoglou, 1999; Goyette et al., 2000). This area of research should continue to be expanded upon to include the type of interventions they are willing to implement. If educators are to facilitate the accommodation of difficult and disruptive students in general education classrooms, they must understand teachers' thinking about these students. More specifically, studying the relationship between teachers' causal attributions and attitude toward particular interventions for students with behavior difficulties may further inform the area of treatment integrity for behavioral interventions in the classroom.

Studies of teacher attributions of student behavior have traditionally focused on teachers' attributions of student performance, achievement, ability, and effort.

Researchers often provide teachers with a written or video vignette describing a child with either high or low ability and high or low effort. Teacher attributions are assessed to determine their causal attributions for the child's behavior. Research has not been conducted to investigate the direct effects of a label, child age, and treatment on teacher attributions for students with behavior problems. Although the findings in this study were not significant, participants were consistent in their ratings of locus, stability, and controllability of the student regardless of the condition. Additional research is necessary in order to determine whether or not label, age, and treatment affect teacher attributions of students with attention and behavior problems.

The Relation between Treatment Acceptability and Label, Age, and Treatment Type

Research to investigate the effects of labeling bias and teacher behavior is limited to teacher attitude toward and expectations for students with disabilities or behavior problems. The current study sought to explore the effects of label, age, and treatment on teacher preferences for and acceptability towards a proposed treatment. The significant three-way interaction indicated differences in treatment acceptability on the basis of label, age, and treatment. Post hoc analyses revealed six significant simple simple main effects. These comparisons exposed specific patterns of treatment preference contingent on certain levels of the independent variables. Overall, the significant post hoc analyses suggested that participants rated the work completion intervention higher on treatment acceptability for the 6 year old condition and the medication intervention higher for the 11 year old condition. Both of these treatments were rated higher for the label condition only. Thus, post hoc findings for treatment acceptability were only significant for the label condition.

Thus far, the effect of a child's age on teacher treatment acceptability for a specific treatment has not been studied. In the current study, two significant findings were uncovered when the age variable was selected for the 11 year old condition only, and two significant findings were also discovered when the 6 year old condition for age was chosen. For the 11 year old condition, medication received higher ratings of treatment acceptability than work completion when the child was labeled AD/HD. Similarly, when the age variable was specified at 11 years old, ratings of treatment acceptability were higher for the label condition than for the no label condition when the medication treatment was proposed.

Medication was rated as a more suitable treatment for the older child, but only when he was diagnosed with AD/HD. The belief that medication is a more appropriate treatment for children diagnosed with AD/HD may be tied to the focus on altering the internal states of the target child. Diagnostic labels are often viewed as internal, biological disabilities, thus medical intervention likely seems more appropriate. This attitude is consistent with the "sin or sickness" theory developed by Weiner (1993) (p.1). Weiner discussed how certain disabilities are perceived by teachers and others as a sickness that is internal, stable, and uncontrollable. Thus, higher acceptance of medication for the child in the label condition may have been affected by perception of the disability. These findings may also be affected by sociocultural variables, as the current categorical system in the United States requires that children be labeled with a disability in order to receive special education services, as well as other treatments such as medication.

When the age variable was selected for the 6 year old condition only, two significant simple simple main effects were revealed. The first comparison signified a significant difference between the work completion intervention and the medication treatment for the 6 year old and label conditions, with higher ratings of treatment acceptability for work completion. The second comparison showed higher ratings of treatment acceptability for the label condition than for the no label condition in the 6 year old and work completion conditions. In general, participants rated the work completion intervention as most appropriate for the 6 year old child, but only when the child was labeled AD/HD.

Perhaps the effort of implementing a behavioral intervention seems more meaningful with a child who has been diagnosed with a specific disability. Results of other studies indicate a relationship between severity of the problem behavior and treatment acceptability ratings from teachers (Elliott, 1988; Elliott, Turco, & Gresham, 1987; Kazdin, 1980). Further, Witt et al. (1984) found a significant link between behavior problem severity and the amount of teacher time involvement. Lower levels of teacher involvement were rated less acceptable by teachers for more severe problem behavior than for mild or moderate levels of problematic behaviors. Teachers may rate a more time-consuming intervention as necessary to reduce problematic behaviors when these behaviors are more severe and disruptive. A diagnosis might indicate a higher level of severity that necessitates intervention. The work completion treatment was rated higher on treatment acceptability than stimulant medication for the 6 year old condition, but the opposite effect was found for the 11 year old condition. Both comparisons were

significant for the label condition which implies that labeling bias and age may have affected teacher treatment acceptability.

Finally, two corresponding findings were discovered when the label/no label variable was specified at label. Participants reported higher ratings of treatment acceptability for the 6 year old condition than for the 11 year old condition when the work completion treatment was proposed. Conversely, the 11 year old condition received higher ratings of treatment acceptability for stimulant medication. Overall, participants rated the medical treatment higher for the older child and the behavioral intervention higher for the younger child. One rationale for these findings may be medication seems more pertinent for older children than for younger children. Previous research has yet to investigate the paramount effects of age on teacher treatment acceptability. In this study, an obvious distinction between age of the child and ratings of treatment acceptability exist. Burns (2000) stated that cognitive abilities and disabilities are often attributed to internal and stable causes. Problematic conduct in an 11 year old child may designate a higher level of stability in those behaviors which appear to be internalized. Stable internalized behaviors can be difficult to modify and likely merit high levels of effort when intervening. Stimulant medication is known to immediately alter the level of dopamine in the brain, leading to a rapid decrease in disruptive and problematic behavior.

Of note, none of the 6 significant pairwise comparisons signified higher ratings of treatment acceptability for the no label condition or for the combined treatment condition. Students receiving labels are often given necessary services that allow them to be more successful in the classroom, both academically and behaviorally. Although these specific services should not be contingent upon a label, students are much more likely to receive

certain interventions and treatments when they are diagnosed with a disability. Time after time, research has indicated that parents of children with AD/HD are more likely than parents of children without AD/HD to attribute their child's behavior as more uncontrollable, stable, and internal to the child (Johnston & Freeman, 1997). Beliefs about the source of the disability may be related to the resources parents and teachers seek for information regarding AD/HD. For example, parents consult medical specialists and family doctors for information and treatment regarding AD/HD (Johnston et al, 2005). These beliefs and sources of information likely have a strong impact on treatment preference. Specifically, when parents and teachers view disorders such as AD/HD to be medical conditions, they will likely turn to medical intervention to treat the disability. In the current study, it is conceivable that these attributions and beliefs impacted the participants' preference toward the medication treatment.

Although behavioral interventions have been found to be highly effective through empirically based research (DuPaul & Eckert, 1998), pharmacological treatments (psychostimulant medications) are the most common intervention for academic and behavioral problems linked to AD/HD. This data suggests that pharmacological treatments may be considered less appropriate for younger children. There was a clear difference between treatment acceptability and preference for the older versus the younger child. Further, the significant pairwise comparisons distinguished either the work completion intervention or medication treatment as more acceptable. The combined treatment did not significantly differ from the other treatments in ratings of treatment acceptability. Once a child is given medication, they often display lower levels of problematic and off task behaviors in the classroom. A behavioral intervention targeting

on task behavior and work completion may no longer appear necessary. The behavioral intervention would also require additional work on the part of the classroom teacher. The added effort may seem superfluous once the problematic behaviors are eliminated. Additional research is necessary in order to determine conclusions about teacher treatment acceptability on the basis of label, age, and treatment.

The Relation between Prognostic Outlook and Label, Age, and Treatment

Typically research has examined the effects of diagnostic labels on individuals' beliefs about the student's likelihood of future failure or success (Clark, 1997; Fox & Stinnett, 1996; Levin, Arluke, & Smith, 1982). This study examined these effects in conjunction with the age of a child and a projected treatment. Consequently, the type of treatment appeared to have a strong effect concurrent with diagnostic label on ratings of prognostic outlook. Three significant pairwise comparisons subsisted for prognostic outlook. Post hoc analyses showed each of the significant differences consistently included the combined treatment.

Specifically, combined treatment given under the 11 year old and label conditions received a more positive prognostic outlook than when given under the 11 year old and no label conditions. Similarly, significantly higher ratings of prognostic outlook existed for the combined treatment when compared with the work completion intervention for the 11 year old and label conditions. Finally, the combined treatment was also rated significantly higher than the work completion intervention for the no label and 6 year old conditions. Thus, the combined treatment received more optimistic ratings of prognostic outlook in each of these comparisons.

There is an interesting difference between the high ratings of prognostic outlook for the combined treatment in the label, 11 year old conditions and the no label, 6 year old conditions. It is difficult to determine the rationale for higher ratings of prognostic outlook in each of these circumstances. The consistent finding in all three significant pairwise comparisons was the treatment type. However, the combined effects of age and label may have affected participants ratings as well. The prognostic outlook scale measured participants' judgment of the child's likelihood of future success and overall level of adjustment as well as the probability of future disruption and future problems in interpersonal relationships. The more optimistic ratings of future success for the younger condition could be due to the fact that a diagnosis did not exist. This in conjunction with an empirically based treatment may lead participants to view success as more likely. Conversely, prognostic outlook was rated higher for the label condition than for no label when the combined treatment was paired with the 11 years old. In this case, the diagnosed child was viewed as more likely to succeed than the non-diagnosed child when given an empirically based treatment.

The significant findings are interesting given the lack of statistical significance for the combined treatment in the post hoc analyses for treatment acceptability. Psychoparmacological medications have been shown to be an effective choice of treatment for children with attention and behavioral disinhibition (DuPaul, Barkley, & Conner, 1998). Some research has shown that teachers also report a preference for medication as the primary treatment for those children (Glass & Wagner, 2000; Havey, et al. 2005). The combined treatment in this study included both pharmacological medication as well as a behavioral intervention consisting of work completion. The

participants in the current study may have judged the combined treatment as more effective at remediating the problem since it included medication, thus improving the prognostic outlook for the student.

Examination of the overall means of prognostic outlook for the three proposed treatments demonstrates the minute difference between the medication treatment and the combined treatment. The means also illustrate the mediocre levels of prognostic outlook across all circumstances. Regardless of the label, age, and treatment conditions, prognostic outlook for the child was rated in the mid-range. For both of the label conditions and one of the no label conditions, prognostic outlook ratings were highest for the combined treatment. Only small differences in prognostic outlook were present between medication treatment and combined treatment. Prognostic outlook scores were the lowest for the work completion intervention in all but one of the independent variable conditions (no label, 11 years old, work completion). In this condition, ratings were the highest for medication and lowest for the combined treatment. Perhaps the work completion intervention does not seem sufficiently pervasive to shape the future success of the child.

Overall, ratings for the probability of future success were elevated when the child was given the combined treatment. Studies investigating the benefits of a multimodal treatment package over medication alone have concluded that combined treatment and medication management do not significantly differ in their effectiveness for core AD/HD symptoms (MTA Cooperative Group, 1999). Children receiving combined packages, however, often show a decline in oppositional behaviors as well as an increase in social performance or social skills. Utilizing behavioral interventions in conjunction with

medication may also require a lower dosage of stimulant medication to achieve the desired behavior outcomes (MTA Cooperative Group, 1999). Future research is necessary in order to evaluate the specific effects of a proposed treatment on prognostic outlook. Potential studies may also examine the link between components of the intervention such as perceived effectiveness, intrusiveness into the environment, required effort, and time consumption on the acceptability of the treatment and prognostic outlook for the child.

Predicting Treatment Acceptability from Attributions

Many variables are related to teacher treatment acceptability and willingness to implement an intervention. Factors such as the amount of time involved in the intervention, severity of the behavior, ecological intrusiveness, and the type of intervention have been studied in relation to treatment acceptability (Witt, 1986; Witt, Martens, Elliott, 1984). The current study examined teacher causal attributions of locus, stability, and controllability of student behavior and the likelihood that these attributions will predict teachers' acceptance of a recommended treatment. It was hypothesized that teacher attributions of the child in the vignette would predict treatment acceptability. Causal attributions were examined for each of the proposed treatments to determine prediction of teachers' treatment acceptability of the treatment for which they read.

Research has shown evidence that when parents attribute their child's AD/HD behaviors to physical causes, they were less likely to accept behavioral interventions as treatment for their children (Reimers, et al., 1995). Whalen and Henker (1976) hypothesized that once hyperactive children began taking stimulant medications, behavioral improvements would be attributed to the medications. In that study, children

reported that their behavior was an internal and stable trait with which they were born, and unless they continued to take the stimulant medication, they would lose control over their behavior (Whalen & Henker, 1976). Behaviors are likely due to a combination of internal and external stimuli; however, when stimulant medication is involved or anticipated, attributions of problematic behavior tend to be more internal and stable.

The current study examined whether causal attributions were significant predictors of specific types of treatment. Results indicated that causal attributions significantly predicted treatment acceptability of work completion, stimulant medication, and a combined treatment. There is some evidence that beliefs and attributions about a child's behavior are related to preference and choice of treatment for AD/HD (Johnston et al., 2005). Future research should further examine the nature of the relationship between attributions and acceptance or preference for treatments that involve stimulant medications and multimodal treatments of AD/HD.

Predicting Prognostic Outlook from Attributions

Prognostic outlook is the belief about the likelihood of student success in the future. This study sought to examine whether teacher prognostic outlook for a student could be predicting by their causal attributions of the child. Attribution theory not only seeks to explain the behavior of individuals, it also examines outcomes or events that may result from different attributions. To date, the relationship between causal attributions of a child and prognostic outlook has never been studied.

Locus and controllability were significant predictors of prognostic outlook for the work completion and medication treatments. The regression analysis for the combined treatment intervention was not significant, indicating that causal attributions did not

predict prognostic outlook when the combined treatment was anticipated. Future studies should seek to determine the nature of teachers' causal attributions and how these attributions predict teachers' prognostic outlook for students based on specific types of recommended treatments.

Strengths, Limitations of the Present Study and Future Directions

This study is unique in that it investigates areas of attribution theory, treatment acceptability, and prognostic outlook that have not been researched in the context of education. The relation between attribution theory and teacher behavior has been studied in light of student success or failure, student achievement, and student effort. Studies have also focused on teacher attributions of students with diagnostic and special education labels. Some studies have examined teacher attributions of student misbehavior, but these studies were not conducted in the United States (Bibou-Nakou, Stogiannidou, & Kiosseoglou, 1999; Ho, 2004). The current study is distinct in that it investigated the combined effect of diagnostic label and age of the child, as well as a proposed treatment on teacher attributions for a child with symptoms of inattention and behavioral disinhibition. Additionally, the relation between the behavior of the child, rather than academic success or academic ability, and teacher attribution was the focus of the study. Further, attributions of children with AD/HD have been studied from the perspective of parents (Johnston, Chen, & Ohan, 2006; Johnston & Freeman, 1997; Johnston, Seipp, Hommerson, Hoza, & Fine, 2005; Saltmarsh, McDougall, & Downey; Reimers et al., 1995). This study sought to evaluate the attributions teachers make about a student with attention and behavior problems.

Because teachers are often responsible for intervening with students who have attention and behavior problems, it is crucial to understand how they interpret the causes of these behaviors in students. Although significant findings were not obtained for the effects of label, age, and treatment on teacher attributions, consistency was found in the attributions made by teachers across conditions. The majority of teacher reports attributed the child's disruptive behavior to mostly internal and stable causes that are outside of the child's control. These findings give practical implications for future studies. Results from this study could provide a helpful reference for prospective studies that focus on teacher attributions of disruptive students. Another inimitable quality of this study pertains to the effects of label, age, and proposed treatment on prognostic outlook and teacher treatment acceptability. Previous studies have found a link between parents' attributions and attitude toward their child with AD/HD and treatment acceptability or preference (Johnston, et al. 2005; Johnston, et al. 2000; Reimer et al., 1995; Whalen & Henker, 1991).

One of the limitations of this study is that it utilized a vignette of a hypothetical child whose behavior remained consistent in each of the conditions. Although this format is necessary to achieve statistical control, it may have affected participant ratings of causal attributions. Further, teacher attitude about students who do not meet the diagnostic criteria for a specific disorder after receiving an evaluation was not assessed in this study, although it may have exaggerated causal attribution ratings. Pelham et al. (1992) found that teachers refer students for psychoeducational evaluations more often than parents or any other school personnel, and the reason for referral (i.e. inattention, poor academic performance, disruptive behavior) often drives the evaluation. Thus,

causal attributions in this study may be related to participants' knowledge of an evaluation more so than the outcome of the assessment (i.e. diagnosed AD/HD or not diagnosed AD/HD).

Numerous studies have been conducted that examine differences between causal attributions for child behavior in parents of clinic-referred children and parents of children without disruptive behavior disorders (Bickett, Milich, & Brown, 1996; Dix & Lochman, 1990; Strassberg, 1995). The findings in these studies suggest that the causal attributions for child behavior differ between the two groups of parents, and these differences have been associated with tribulations in the parent-child relationship of the clinic-referred group (Frick, 1994; Patterson, 2002). Typically, parents in both groups are given a vignette describing a child engaging in disruptive as well as prosocial behavior. In these studies, however, there is presumably a contrast between groups in the behavior they observe in their own children, which may account for the significant findings. In the current study, the contrast in behavior did not exist. All participants read about the same child with disruptive behavior problems that existed across setting. Thus, the effect of label on causal attributions may have been affected by both the severity of the child's behavior as well as the knowledge of a previous evaluation.

The IRP-15 was used to assess participants' treatment acceptability of the proposed intervention in this study because the scale has strong internal consistency (alpha coefficient = .98) (Martens et al., 1985). The IRP-15 has also been used in a number of studies to evaluate school-based interventions. There are few commercially available instruments that assess treatment acceptability of a proposed intervention. A universal scale assessing treatment acceptability was particularly challenging for the

current study as the proposed treatment was varied across condition. Use of the IRP-15 may have limited the findings of this study since the items were not specific to the treatment being evaluated. These results could have been more meaningful to practitioners if a more detailed instrument which assessed acceptability of specific aspects of the proposed intervention was utilized.

Another limitation of this study is that participant knowledge of attention-deficit/hyperactivity disorder could not be controlled for through analysis of covariance as initially planned. The initial intention was to use the Knowledge of Attention Deficit Disorder Scale (KADDS) in order to remove all variance associated with teacher knowledge of the disorder. The objective of the covariate was to remove all variance for which the covariate predictor accounted, as it likely accounts for some of the variability in the dependent measures, in order to increase statistical power. Because the preliminary homogeneity of slopes analysis showed that the independent variables differed as a function of the KADDS, the scale was not appropriate for use as a covariate. Future studies may be able to make use of the measure as a covariate by increasing the sample size.

Finally, the format of this study may be viewed as a limitation as it is web based research. Participants were asked to log onto a website to complete the study making supervision of completion impractical. In addition, the demographic background of the sample may also be a limitation. As in the literature in general, participants in this sample are typically Caucasian women (92%). It is important to consider issues of teacher attitude and beliefs about students with attention and behavior problems in diverse populations.

After reviewing the literature for teacher attributions of student disruptive behavior, it is evident that findings reflect a fundamental attribution error on the part of teachers (Brown & Rogers, 1991; Campell & Sedikides,1999). Teachers tend to establish the causes for problematic and disruptive behavior to internal characteristics within the student as opposed to environmental factors or even factors related to the teacher (Brophy & Rohrkemper, 1981; Christenson, Ysseldyke, Wang, & Algozzine, 1983; Medway, 1979; Miller, 1995, 1996; Soodak & Podell, 1994; Wilson & Silverman, 1991). Research has also shown a link between teachers' causal attributions and the type of disciple they use (Bibou-Nakou, Stogian-nidou, & Kiosseoglou, 1999; Goyette et al., 2000). For example, students are more likely to receive punishment for their behavior when the causal attribution points to controllability over behavior (Graham & Weiner, 1986; Medway, 1979).

Further established is the relationship between teachers' willingness to praise and help students based on their internal and external attributions of the child (Tollefson & Chen, 1988). There is a need for continued research to assess the relationship between teacher attributions of a student and teacher behavior toward the student, particularly in the area of treatment acceptability. The findings in this study revealed a significant relationship between label, age, and treatment type, and treatment acceptability for the proposed treatment. Causal attributions also appear to have a mediating affect on treatment acceptability of a projected treatment. More sophisticated instrumentation may reveal the underlying effects of label, age, and treatment on causal attributions. Future studies should continue to explore this relationship.

Research studies such as this and others can provide information to educators and school psychologists that can be relayed to teachers about the effects of their misconceptions and assumptions on their behavior. Specifically, understanding the beliefs that teachers have about student problem behavior and the sources of difficult behaviors can guide teacher education programs to improve training curriculum and include education on empirically based techniques that address these classroom problems. Erroneous perceptions about childhood disorders and disruptive behavior can lead to utilization of invalid interventions, unfair treatment, and educational placements that are not least restrictive. Once these faulty beliefs are identified, they can be targeted for superior training on the probable sources of child's behavior and potential evidence and research based treatments to address those behaviors in the general education classroom.

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APPENDIX A – Tables and Figures

Table 1

Descriptive Statistics for Attribution Variables (N = 213)

	Label	Age	Treatment	Mean	SD	N
Locus	Label	6 years old	Work Completion	2.63	.62	16
			Medication	2.81	1.11	16
			Combined	2.62	1.16	21
			Total	2.68	.995	53
		11 years old	Work Completion	2.68	.820	19
			Medication	2.53	.99	15
			Combined	2.53	.99	15
			Total	2.59	.91	49
		Total	Work Completion	2.66	.73	35
			Medication	2.68	1.05	31
			Combined	2.59	1.08	36
			Total	2.64	.95	102
	No Label	6 years old	Work Completion	3.54	1.13	13
			Medication	3.16	1.42	19
			Combined	2.78	1.31	23
			Total	3.09	1.32	55
		11 years old	Work Completion	2.83	1.24	24
			Medication	2.60	.88	20
			Combined	2.92	1.16	12
			Total	2.77	1.10	56

Total	Work Completion	3.08	1.23	37
	Medication	2.87	1.20	39
	Combined	2.82	1.25	35
	Total	2.93	1.22	111
6 years old	Work Completion	3.03	.98	29
	Medication	3.00	1.28	35
	Combined	2.70	1.23	44
	Total	2.89	1.19	108
11 years old	Work Completion	2.77	1.07	43
	Medication	2.57	.92	35
	Combined	2.70	1.07	27
	Total	2.69	1.01	105
Total	Work Completion	2.88	1.03	72
	Medication	2.79	1.13	70
	Combined	2.70	1.16	71
	Total	2.79	1.11	213
6 years old	Work Completion	3.69	1.30	16
	Medication	3.69	1.35	16
	Combined	3.24	1.14	21
	Total	3.51	1.25	53
11 years old	Work Completion	3.16	1.12	19
	Medication	3.00	1.00	15
	Combined	3.20	1.21	15
	Total	3.12	1.09	49
Total	Work Completion	3.40	1.218	35
	Medication	3.35	1.23	31
	Combined	3.22	1.15	36
	Total	3.32	1.19	102
6 years old	Work Completion	3.77	.93	13
	Medication	3.68	.75	19
	Combined	3.43	1.08	23
	Total	3.60	.93	55

11 years old	Work Completion	2.92	1.02	24
	Medication	3.00	1.08	20
	Combined	3.50	1.00	12
	Total	3.07	1.04	56
Total	Work Completion	3.22	1.06	37
	Medication	3.33	.98	39
	Combined	3.46	1.04	35
	Total	3.33	1.02	111
6 years old	Work Completion	3.72	1.13	29
	Medication	3.69	1.05	35
	Combined	3.34	1.10	44
	Total	3.56	1.10	108
11 years old	Work Completion	3.02	1.06	43
	Medication	3.00	1.03	35
	Combined	3.33	1.11	27
	Total	3.10	1.06	105
Total	Work Completion	3.31	1.13	72
	Medication	3.34	1.09	70
	Combined	3.34	1.09	71
	Total	3.33	1.10	213
6 years old	Work Completion	3.69	1.25	16
	Medication	4.00	1.32	16
	Combined	3.81	1.47	21
	Total	3.83	1.34	53
11 years old	Work Completion	3.58	1.22	19
	Medication	3.93	.96	15
	Combined	3.87	1.25	15
	Total	3.78	1.14	49
Total	Work Completion	3.63	1.21	35
	Medication	3.97	1.14	31
	Combined	3.83	1.36	36
	Total	3.80	1.24	102

6 years old	Work Completion	3.62	1.12	13
	Medication	3.79	1.13	19
	Combined	4.00	1.28	23
	Total	3.84	1.18	55
11 years old	Work Completion	3.88	1.26	24
	Medication	4.20	.83	20
	Combined	3.50	1.38	12
	Total	3.91	1.16	56
Total	Work Completion	3.78	1.20	37
	Medication	4.00	1.00	39
	Combined	3.83	1.32	35
	Total	3.87	1.17	111
6 years old	Work Completion	3.66	1.17	29
	Medication	3.89	1.21	35
	Combined	3.91	1.36	44
	Total	3.83	1.26	108
11 years old	Work Completion	3.74	1.24	43
	Medication	4.09	.89	35
	Combined	3.70	1.30	27
	Total	3.85	1.15	105
Total	Work Completion	3.71	1.20	72
	Medication	3.99	1.06	70
	Combined	3.83	1.33	71
	Total	3.84	1.20	213

Table 2

Test of Equality of Error Variances

Dependent Variable: Attribution Variables

F	df1	df2	Sig.
3.134	11	201	.001

Tests the null hypothesis that the error variance of the dependent variables is equal across groups.

Table 3
Multivariate Analyses of Variance for Attribution Measures
(N = 213)

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Wilks' Lambda	.025	2.636E3	3.000	199.000	.000	.975
Label	Wilks' Lambda	.974	1.763	3.000	199.000	.155	.026
Age	Wilks' Lambda	.947	3.717	3.000	199.000	.012	.053
Treatment	Wilks' Lambda	.983	.559	6.000	398.000	.763	.008
Label * Age	Wilks' Lambda	.996	.267	3.000	199.000	.849	.004
Label * Treatment	Wilks' Lambda	.988	.402	6.000	398.000	.877	.006
Age * Treatment	Wilks' Lambda	.976	.809	6.000	398.000	.563	.012
Label * Age * Treatment	Wilks' Lambda	.984	.544	6.000	398.000	.775	.008

Table 4
Descriptive Statistics for IRP-15 and Prognostic Outlook (N = 193)

	Label	Age	Treatment	Mean	SD	N
Treatment Acceptability (IRP-15)	Label	6 years old	Work Completion	72.21	8.26	14
			Medication	57.54	18.15	13
			Combined	64.45	15.14	20
			Total	64.85	15.22	47
		11 years old	Work Completion	58.39	17.58	18
			Medication	70.00	12.62	14
			Combined	64.75	12.78	12
			Total	63.82	15.40	44
		Total	Work Completion	64.44	15.71	32
			Medication	64.00	16.49	27
			Combined	64.56	14.09	32
			Total	64.35	15.23	91
	No Label	6 years old	Work Completion	59.91	12.51	11
			Medication	57.33	14.41	18
			Combined	62.26	16.67	23
			Total	60.058	14.98	52
		11 years old	Work Completion	62.95	10.14	21
			Medication	58.17	16.59	18
			Combined	53.27	18.35	11
			Total	59.10	14.85	50
		Total	Work Completion	61.91	10.91	32
			Medication	57.75	15.32	36
			Combined	59.35	17.48	34
			Total	59.59	14.85	102

	Total	6 years old	Work Completion	66.80	11.87	25
			Medication	57.419	15.79	31
			Combined	63.28	15.83	43
			Total	62.33	15.21	99
		11 years old	Work Completion	60.85	14.06	39
			Medication	63.34	15.91	32
			Combined	59.26	16.40	23
			Total	61.31	15.21	94
		Total	Work Completion	63.17	13.47	64
			Medication	60.43	16.00	63
			Combined	61.88	16.02	66
			Total	61.83	15.18	193
Prognostic Outlook	Label	6 years old	Work Completion	6.00	1.01	14
			Medication	6.01	1.32	13
			Combined	6.38	1.04	20
			Total	6.17	1.11	47
		11 years old	Work Completion	5.27	1.74	18
			Medication	6.08	1.23	14
			Combined	6.85	1.09	12
			Total	5.96	1.54	44
		Total	Work Completion	5.59	1.49	32
			Medication	6.05	1.25	27
			Combined	6.56	1.07	32
			Total	6.07	1.33	91
	No Label	6 years old	Work Completion	5.42	.98	11
			Medication	6.12	1.22	18

			Combined	6.40	1.26	23
			Total	6.10	1.23	52
		11 years old	Work Completion	5.71	1.47	21
			Medication	6.35	1.44	18
			Combined	5.48	1.28	11
			Total	5.89	1.43	50
		Total	Work Completion	5.61	1.31	32
			Medication	6.23	1.32	36
			Combined	6.11	1.32	34
			Total	6.00	1.33	102
	Total	6 years old	Work Completion	5.75	1.02	25
			Medication	6.08	1.25	31
			Combined	6.40	1.15	43
			Total	6.13	1.17	99
		11 years old	Work Completion	5.51	1.59	39
			Medication	6.23	1.34	32
			Combined	6.20	1.35	23
			Total	5.92	1.48	94
		Total	Work Completion	5.60	1.39	64
			Medication	6.15	1.29	63
			Combined	6.33	1.22	66
			Total	6.03	1.33	193

Table 5
Multivariate Analysis for Treatment Acceptability and Prognostic Outlook Measures
(N = 193)

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Wilks' Lambda	.037	2.350E3	2.000	180.000	.000	.963
Label	Wilks' Lambda	.965	3.270	2.000	180.000	.040	.035
Age	Wilks' Lambda	.998	.165	2.000	180.000	.848	.002
Treatment	Wilks' Lambda	.910	4.336	4.000	360.000	.002	.046
Label * Age	Wilks' Lambda	.999	.047	2.000	180.000	.954	.001
Label * Treatment	Wilks' Lambda	.976	1.096	4.000	360.000	.358	.012
Age * Treatment	Wilks' Lambda	.966	1.573	4.000	360.000	.181	.017
Label * Age * Treatment	Wilks' Lambda	.931	3.256	4.000	360.000	.012	.035

Table 6

Univariate Analyses of Variance for Treatment Acceptability and Prognostic Outlook Measures

(N = 193)

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Treatment Acceptability	4618.651	11	419.877	1.918	.040	.104
	Prognostic Outlook	35.651	11	3.241	1.929	.038	.105
Intercept	Treatment Acceptability	693118.236	1	693118.236	3166.118	.000	.946
	Prognostic Outlook	6556.120	1	6556.120	3903.019	.000	.956
Label	Treatment Acceptability	1411.226	1	1411.226	6.446	.012	.034
	Prognostic Outlook	1.580	1	1.580	.940	.333	.005
Age	Treatment Acceptability	48.108	1	48.108	.220	.640	.001
	Prognostic Outlook	.463	1	.463	.275	.600	.002
Treatment	Treatment Acceptability	237.039	2	118.519	.541	.583	.006
	Prognostic Outlook	15.514	2	7.757	4.618	.011	.049
Label * Age	Treatment Acceptability	20.668	1	20.668	.094	.759	.001
	Prognostic Outlook	.054	1	.054	.032	.857	.000
Label * Treatment	Treatment Acceptability	70.446	2	35.223	.161	.852	.002
	Prognostic Outlook	5.859	2	2.929	1.744	.178	.019

Age * Treatment	Treatment Acceptability	1359.095	2	679.548	3.104	.047	.033
	Prognostic Outlook	1.390	2	.695	.414	.662	.005
Label * Age * Treatment	Treatment Acceptability	1892.604	2	946.302	4.323	.015	.046
	Prognostic Outlook	11.111	2	5.555	3.307	.039	.035
Error	Treatment Acceptability	39624.044	181	218.917			
	Prognostic Outlook	304.036	181	1.680			
Total	Treatment Acceptability	782172.000	193				
	Prognostic Outlook	7355.853	193				
Corrected Total	Treatment Acceptability	44242.694	192				
	Prognostic Outlook	339.687	192				

Table 7

Simple Simple Main Effects for 11 Year old Condition

Dependent Variable	Age	Condition	(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
								Lower Bound	Upper Bound
Treatment Acceptability	11 years old	Label	Work Completion	Medication	-11.61*	5.27	.030	-22.08	-1.15
			Medication	Work Completion	11.61*	5.27	.030	1.15	22.08
	11 years old	Medication	Label	No Label	11.83*	5.27	.027	1.37	22.30
			No Label	Label	11.83*	5.27	.027	-22.30	-1.37

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

Table 8

Simple Simple Main Effects for 6 years old condition

Dependent Variable	Age	Condition	(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
								Lower Bound	Upper Bound
Treatment Acceptability	6 years old	Label	Work Completion	Medication	14.68*	5.71	.012	3.35	26.00
			Medication	Work Completion	-14.68*	5.71	.012	-26.01	-3.35
	6 years old	Work Completion	Label	No Label	12.31*	5.97	.042	.46	24.16
			No Label	Label	12.31*	5.97	.042	-24.16	-.46

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

Table 9

Simple Simple Main Effects for Label AD/HD condition

Dependent Variable	Label	Treatment	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
								Lower Bound	Upper Bound
Treatment Acceptability	Label	Work Completion	6 years old	11 years old	13.83*	5.23	.010	3.42	24.23
			11 years old	6 years old	-13.83*	5.23	.010	-24.23	-3.42
	Label	Medication	6 years old	11 years old	-12.46*	5.66	.030	-23.705	-1.22
			11 years old	6 years old	12.46*	5.66	.030	1.22	23.71

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

Table 10

Simple Simple Main Effects for 11 year old condition

Dependent Variable	Age	Condition	(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
								Lower Bound	Upper Bound
Prognostic Outlook	11 years old	Label	Combined	Work Completion	-1.58	.53	.004	.52	2.64
			Work Completion	Combined	-1.58	.53	.004	-2.64	-.52
	11 years old	Combined	Label	No Label	1.37*	.595	.024	.18	2.55
			No Label	Label	-1.37*	.595	.024	-2.55	-.18

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

Table 11

Simple Simple Main Effects for 6 year old condition

Dependent Variable	Label	Age	(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
								Lower Bound	Upper Bound
Prognostic Outlook	No Label	6 years old	Combined	Work Completion	.98*	.43	.023	.14	1.83
			Work Completion	Combined	-.98*	.43	.023	-1.83	-.14

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

Table 12

Descriptive Statistics for Attribution Variables and Treatment Acceptability of Work Completion

Variable	Mean	SD	N
Treatment Acceptability	63.17	13.47	64
Locus	2.86	1.07	64
Stability	3.36	1.13	64
Controllability	3.66	1.22	64

Table 13

Model Summary: Regression Analysis for the prediction of Treatment Acceptability of Work Completion

Model R Square = .121	Standardized Coefficients			Correlations		
	Beta	t	Sig.	Zero-order	Partial	Semi Partial
Locus	-.043	-.327	.745	.098	-.042	-.040
Stability	.337	2.405	.019	.342	.296	.291
Controllability	-.053	-.403	.688	-.180	-.052	-.049

Dependent Variable: Treatment Acceptability for Work Completion

Table 14

Descriptive Statistics for Attribution Variables and Treatment Acceptability of Stimulant Medication

Variable	Mean	SD	N
Treatment Acceptability	60.43	16.00	63
Locus	2.76	1.07	63
Stability	3.38	1.07	63
Controllability	3.98	1.07	63

Table 15

Model Summary: Regression Analysis for the prediction of Treatment Acceptability of Medication

Model R Square = .397	Standardized Coefficients			Correlations		
	Beta	t	Sig.	Zero-order	Partial	Semi Partial
Locus	-.378	-3.289	.002	-.533	-.394	-.333
Stability	-.351	-3.104	.003	-.515	-.375	-.314
Controllability	.045	.392	.696	.322	.051	.040

Dependent Variable: Treatment Acceptability for Medication

Table 16

Descriptive Statistics for Attribution Variables and Treatment Acceptability of Combined Treatment

Variables	Mean	SD	N
Treatment Acceptability	61.88	16.02	66
Locus	2.74	1.18	66
Stability	3.38	1.09	66
Controllability	3.79	1.35	66

Table 17

Model Summary: Regression Analysis for the prediction of Treatment Acceptability of Combined Treatment

Model R Square = .196	Standardized Coefficients			Correlations		
	Beta	t	Sig.	Zero-order	Partial	Semi Partial
Locus	-.292	-2.377	.021	-.378	-.289	-.271
Stability	-.178	-1.291	.201	-.338	-.162	-.147
Controllability	.103	.787	.434	.244	.099	.090

Dependent Variable: Treatment Acceptability for Combined

Table 18

Descriptive Statistics for Attribution Variables and Prognostic Outlook of Work Completion

Variable	Mean	SD	N
Prognostic Outlook	5.58	1.35	72
Locus	2.88	1.03	72
Stability	3.31	1.13	72
Controllability	3.71	1.20	72

Table 19

Model Summary: Regression Analysis for the prediction of Prognostic Outlook for Work Completion

Model R Square = .109	Standardized Coefficients			Correlations		
	Beta	t	Sig.	Zero-order	Partial	Semi Partial
Locus	-.011	-.091	.928	.109	-.011	-.010
Stability	.349	2.628	.011	.327	.304	.301
Controllability	.043	.338	.736	-.101	.041	.039

Dependent Variable: Prognostic Outlook for Work Completion

Table 20

Descriptive Statistics for Attribution Variables and Prognostic Outlook of Stimulant Medication

Variable	Mean	SD	N
Prognostic Outlook	6.10	1.34	70
Locus	2.79	1.13	70
Stability	3.34	1.09	70
Controllability	3.99	1.06	70

Table 21

Model Summary: Regression Analysis for the prediction of Prognostic Outlook for Medication

Model R Square = .238	Standardized Coefficients			Correlations		
	Beta	t	Sig.	Zero-order	Partial	Semi Partial
Locus	-.288	-2.274	.026	-.427	-.270	-.244
Stability	-.090	-.724	.472	-.312	-.089	-.078
Controllability	.224	1.804	.076	.388	.217	.194

Dependent Variable: Prognostic Outlook for Medication

Table 22

Descriptive Statistics for Attribution Variables and Prognostic Outlook of Combined Treatment

Variable	Mean	SD	N
Prognostic Outlook	6.25	1.23	71
Locus	2.70	1.16	71
Stability	3.33	1.09	71
Controllability	3.83	1.33	71

Table 23

Model Summary: Regression Analysis for the prediction of Prognostic Outlook for Combined Treatment

Model R Square = .060	Standardized Coefficients			Correlations		
	Beta	t	Sig.	Zero-order	Partial	Semi Partial
Locus	-.165	-1.277	.206	-.175	-.154	-.151
Stability	.076	.519	.605	-.089	.063	.062
Controllability	.196	1.435	.156	.193	.173	.170

Dependent Variable: Prognostic Outlook for Combined

Figure 1
The Factorial Design

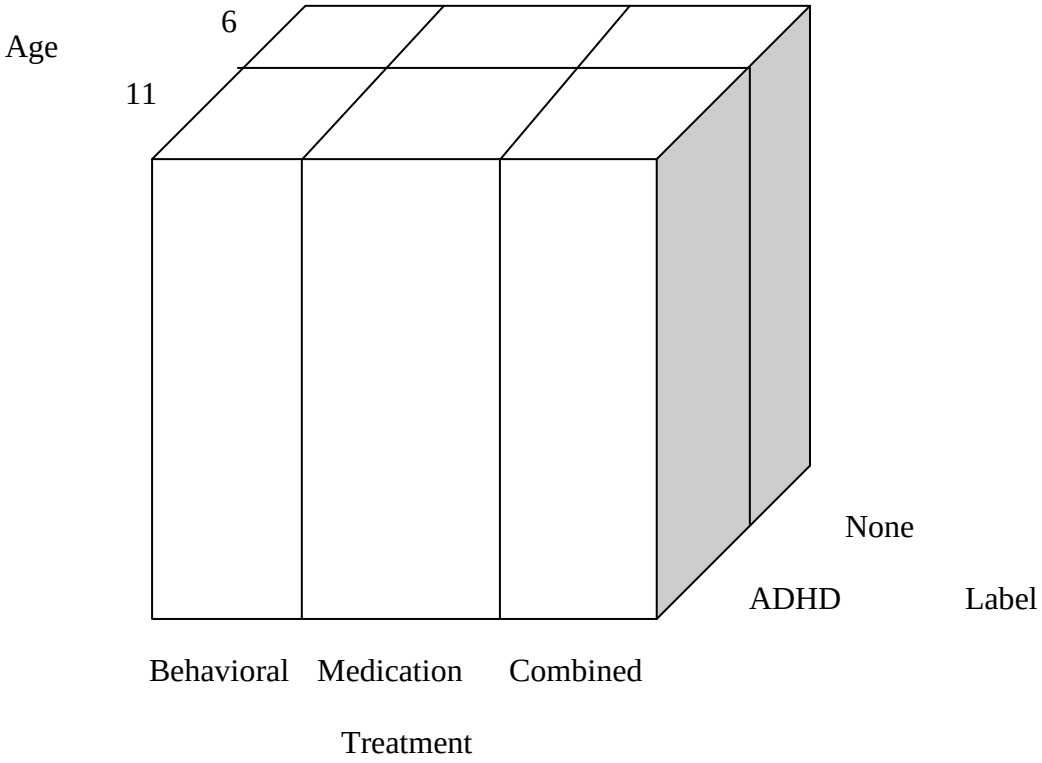


Figure 2
Estimated Marginal Means of the 6 year old Condition for Treatment Acceptability

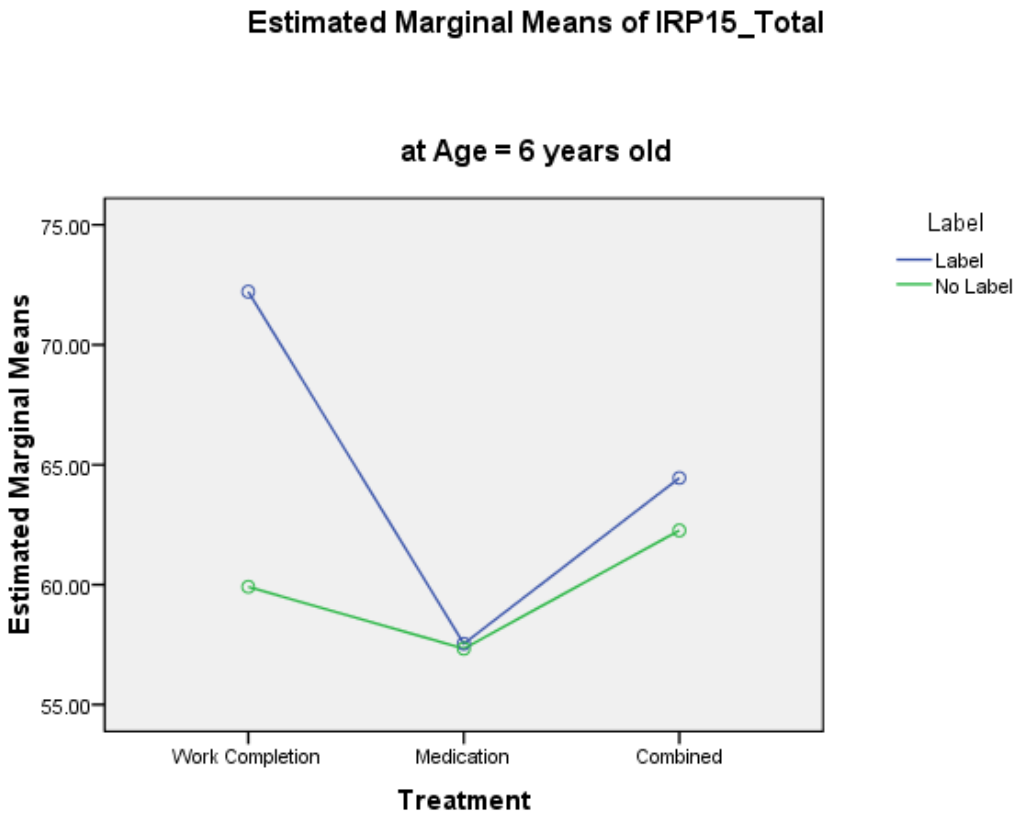


Figure 3
Estimated Marginal Means of the 11 year old Condition for Treatment Acceptability

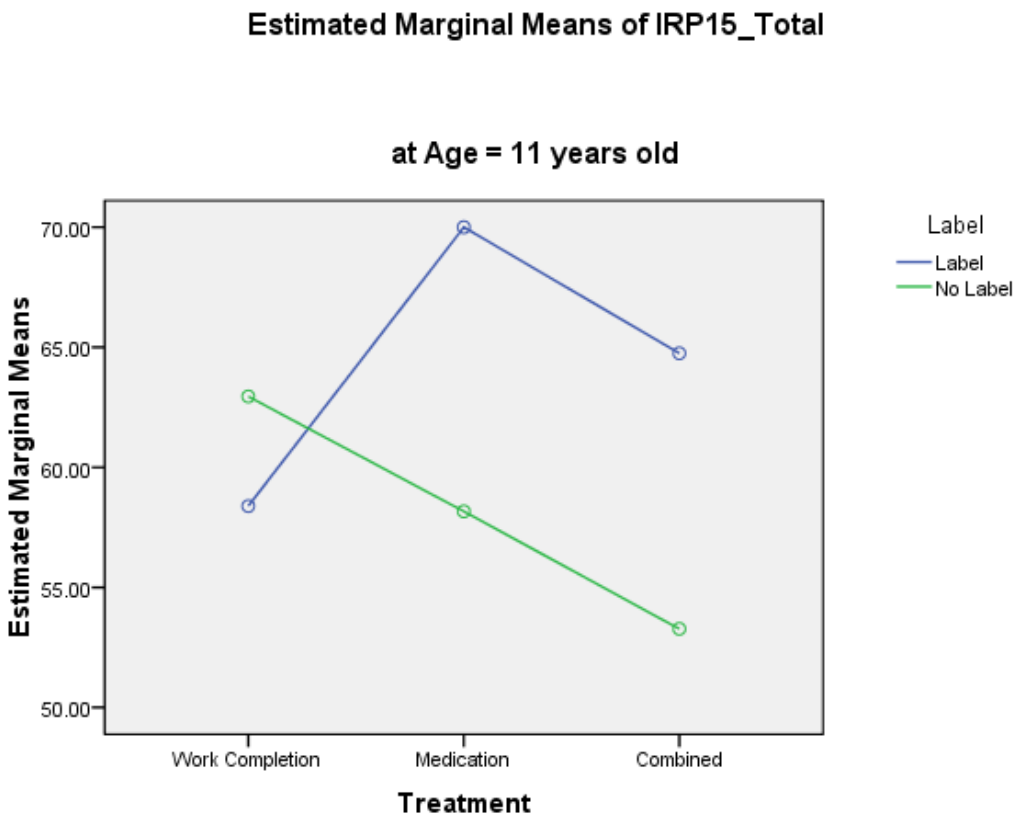


Figure 4
Estimated Marginal Means of the Label Condition for Treatment Acceptability

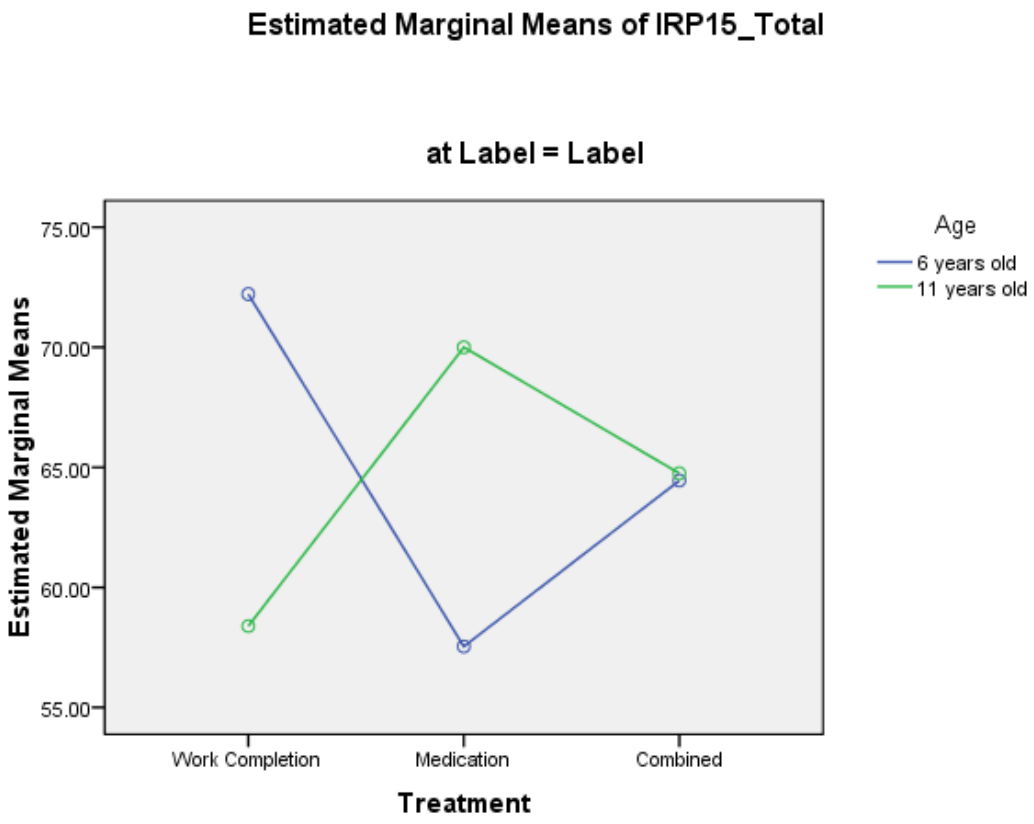


Figure 5
Estimated Marginal Means of the No Label Condition for Treatment Acceptability

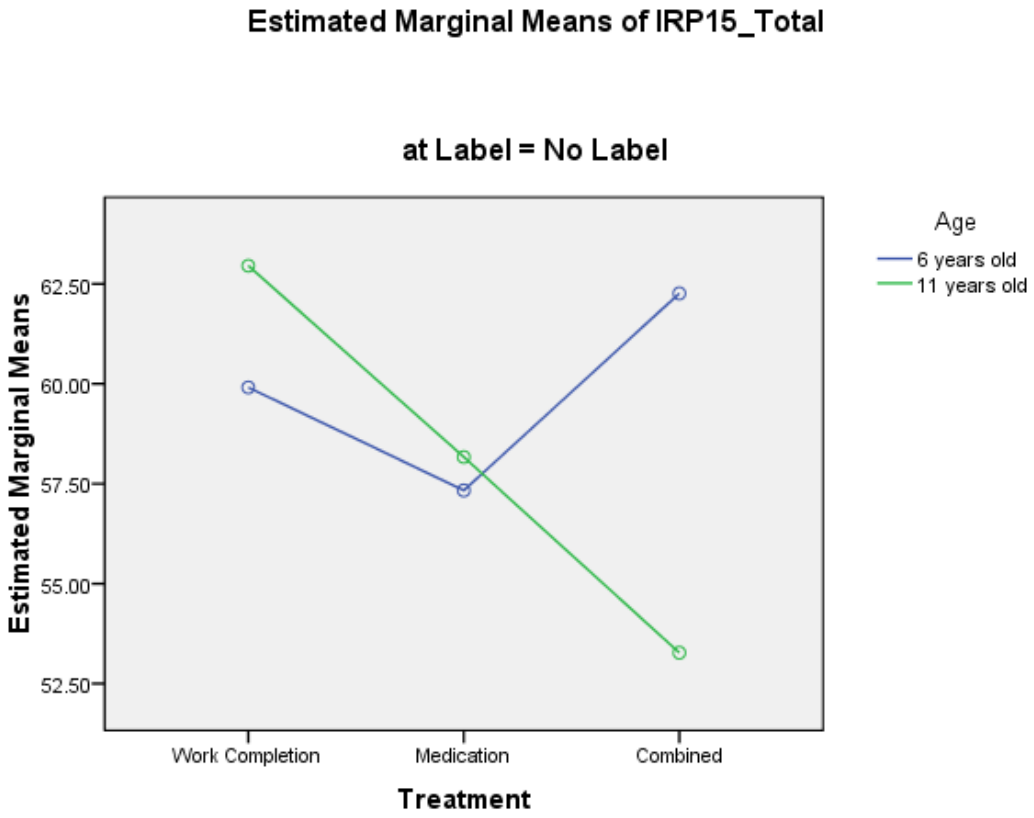


Figure 6
Estimated Marginal Means of the 6 year old Condition for Prognostic Outlook

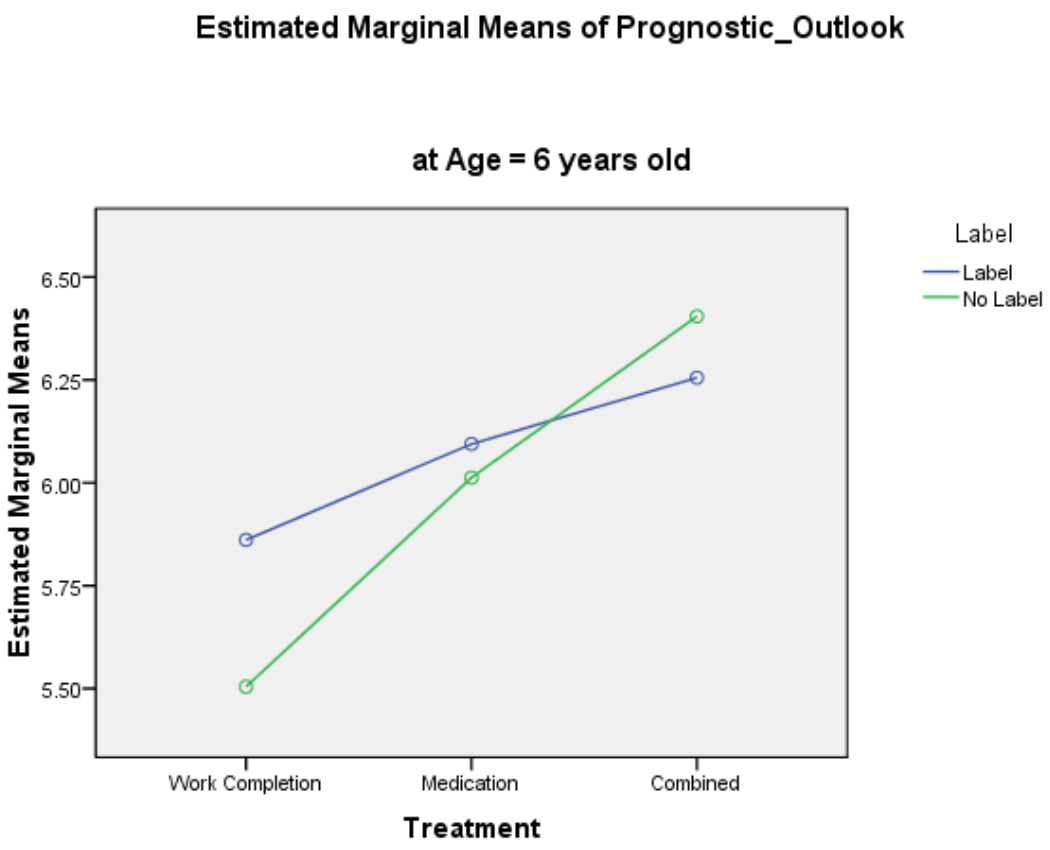


Figure 7
Estimated Marginal Means of the 11 year old Condition for Prognostic Outlook

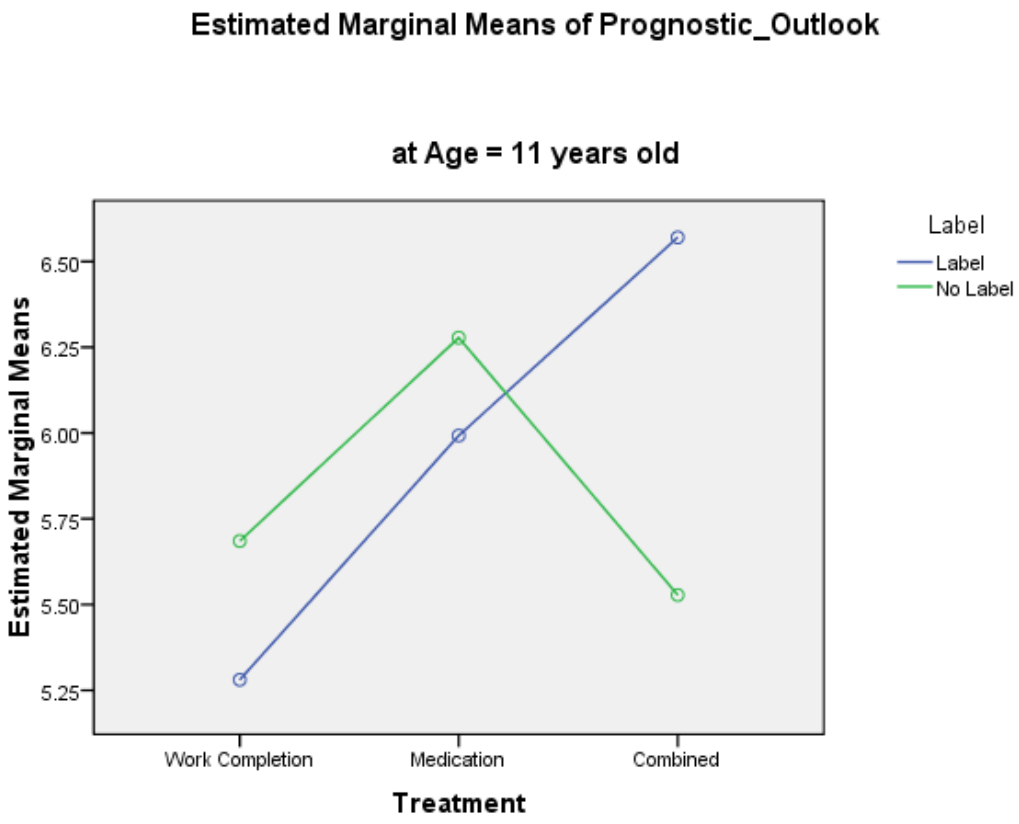


Figure 8
Estimated Marginal Means of the Label Condition for Prognostic Outlook

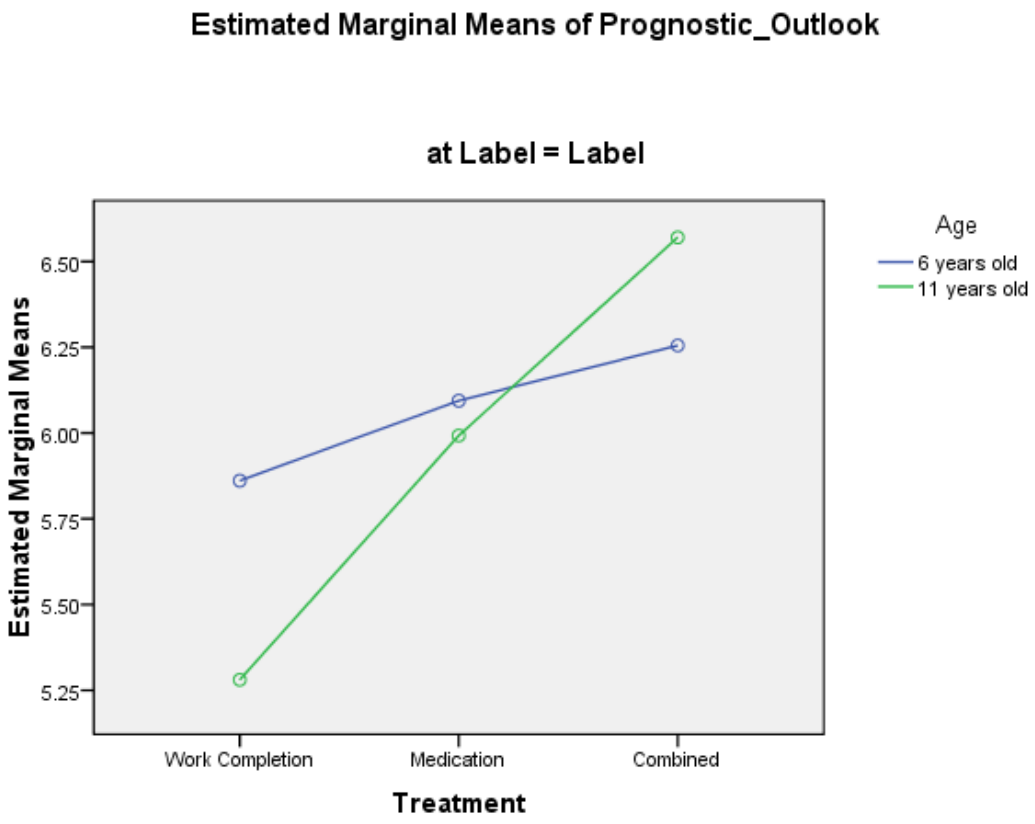
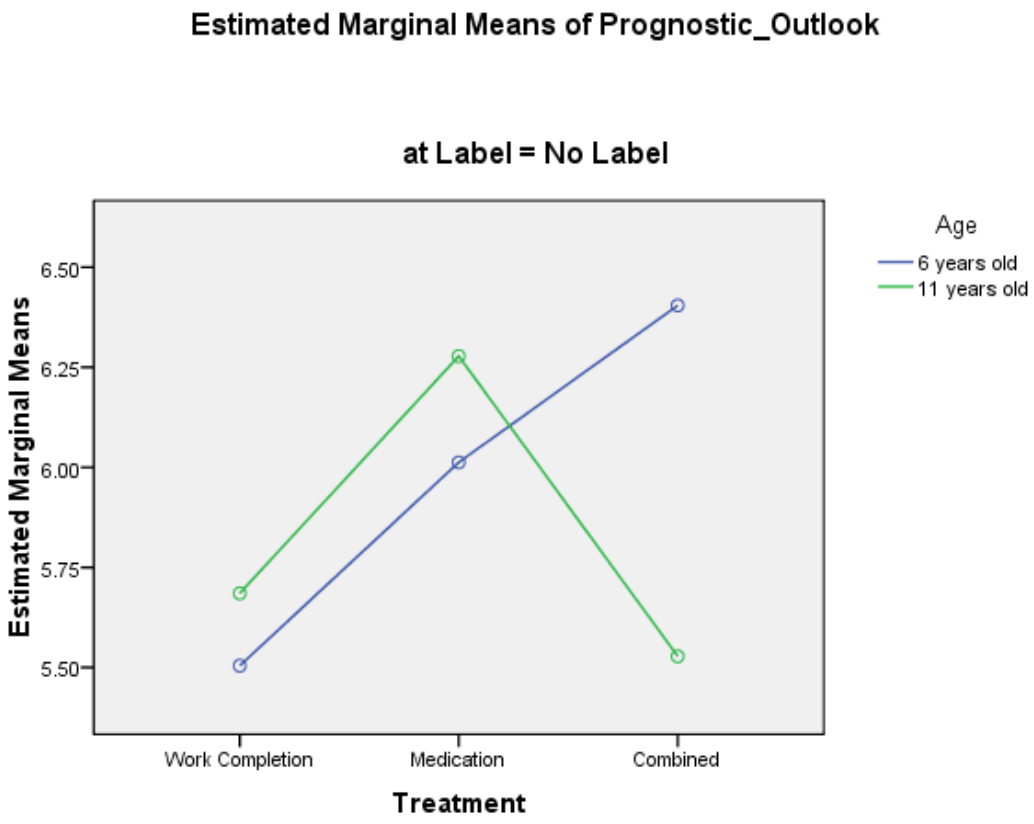


Figure 9
Estimated Marginal Means of the No Label Condition for Prognostic Outlook



APPENDIX B - Measures

Twelve Vignette Conditions (Label x Age x Treatment)

1. Label, 6 years old, Work Completion
Jimmy is six year old student in the first grade. He is very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist and diagnosed with Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

Further, his peer relationships have been negatively impacted by his equally impulsive interpersonal interactions. Jimmy has difficulty sustaining adequate attention to complete tasks, group assignments, or play activities with his friends and peers. When completing assignments with classmates, Jimmy often blurts out comments or answers while other students are speaking. During playtime, he tends to interrupt or intrude on a game that is already in process. He habitually leaves a game or activity before the group is finished playing. Because he doesn't often complete activities, Jimmy's classmates often refuse to work or play with him. As a result of his disruptive behaviors and inability to complete poor work completion with peers, Jimmy is not well-liked by his classmates.

At home, Jimmy's parents consider him a handful. They report that he is often forgetful and disorganized. They notice that he dislikes and avoids carrying out tasks that require continual mental exertion, such as homework. As a result of a vicious cycle he starts an activity, gets bored with the activity and then starts another activity. His room is always messy because he becomes engaged in a game only to drop it to start something else. His parents report that they often scold him for not carrying out some task, although the reason seems to be that he forgot rather than that he deliberately tries to defy them. They also say that, out of their own frustration, they sometimes grab him by the shoulders and tell him to slow down because his hyperactivity is so severe.

Treatment: Work Completion (Behavioral Intervention)
It is recommended that Jimmy receive a behavioral intervention designed to improve his

work completion. Specifically, the school psychologist recommended a timer work completion intervention, which will be run by Jimmy's teacher. The timer intervention is used in order to help Jimmy to better complete his work during independent work time. The intervention involves modifying any questions or problems that may be too difficult for Jimmy on the assignment, as well as using a timer to ensure that he completes his work in a timely fashion. Jimmy's teacher will place a timer on Jimmy's desk during any independent seat-work time. She should then instruct him to begin completing his work for that session, giving him five minutes to complete the first problem. If Jimmy completes the problem before the timer gets to zero, he earns three minutes of computer access that day during the "free time" period. The teacher should complete this process for each problem in his assignment, recording how many problems Jimmy completes on his Work Completion Chart. She also record the number of problems that he completes correctly. This intervention is meant to target student's off-task behavior, and increase the amount of assignments completed.

2. Label, 11 years old, Work Completion
Jimmy is an eleven year old student who is in the fifth grade. He is very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist and diagnosed with Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

Further, his peer relationships have been negatively impacted by his equally impulsive interpersonal interactions. Jimmy has difficulty sustaining adequate attention to complete tasks, group assignments, or play activities with his friends and peers. When completing assignments with classmates, Jimmy often blurts out comments or answers while other students are speaking. During playtime, he tends to interrupt or intrude on a game that is already in process. He habitually leaves a game or activity before the group is finished playing. Because he doesn't often complete activities, Jimmy's classmates often refuse to work or play with him. As a result of his disruptive behaviors and inability to complete poor work completion with peers, Jimmy is not well-liked by his classmates.

At home, Jimmy's parents consider him a handful. They report that he is often forgetful and disorganized. They notice that he dislikes and avoids carrying out tasks that require continual mental exertion, such as homework. As a result of a vicious cycle he starts an activity, gets bored with the activity and then starts another activity. His room is always messy because he becomes engaged in a game only to drop it to start something else. His parents report that they often scold him for not carrying out some task, although the reason seems to be that he forgot rather than that he deliberately tries to defy them. They

also say that, out of their own frustration, they sometimes grab him by the shoulders and tell him to slow down because his hyperactivity is so severe.

Treatment: Work Completion (Behavioral Intervention)
It is recommended that Jimmy receive a behavioral intervention designed to improve his work completion. Specifically, the school psychologist recommended a timer work completion intervention, which will be run by Jimmy's teacher. The timer intervention is used in order to help Jimmy to better complete his work during independent work time. The intervention involves modifying any questions or problems that may be too difficult for Jimmy on the assignment, as well as using a timer to ensure that he completes his work in a timely fashion. Jimmy's teacher will place a timer on Jimmy's desk during any independent seat-work time. She should then instruct him to begin completing his work for that session, giving him five minutes to complete the first problem. If Jimmy completes the problem before the timer gets to zero, he earns three minutes of computer access that day during the "free time" period. The teacher should complete this process for each problem in his assignment, recording how many problems Jimmy completes on his Work Completion Chart. She also records the number of problems that he completes correctly. This intervention is meant to target student's off-task behavior, and increase the amount of assignments completed.

3. No label, 1st grade, Work Completion
Jimmy is a six year old student who is in the first grade. He is considered to by very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist; however he did not qualify as having Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

Further, his peer relationships have been negatively impacted by his equally impulsive interpersonal interactions. Jimmy has difficulty sustaining adequate attention to complete tasks, group assignments, or play activities with his friends and peers. When completing assignments with classmates, Jimmy often blurts out comments or answers while other students are speaking. During playtime, he tends to interrupt or intrude on a game that is already in process. He habitually leaves a game or activity before the group is finished playing. Because he doesn't often complete activities, Jimmy's classmates often refuse to work or play with him. As a result of his disruptive behaviors and inability to complete poor work completion with peers, Jimmy is not well-liked by his classmates.

At home, Jimmy's parents consider him a handful. They report that he is often forgetful and disorganized. They notice that he dislikes and avoids carrying out tasks that require continual mental exertion, such as homework. As a result of a vicious cycle he starts an activity, gets bored with the activity and then starts another activity. His room is always messy because he becomes engaged in a game only to drop it to start something else. His parents report that they often scold him for not carrying out some task, although the reason seems to be that he forgot rather than that he deliberately tries to defy them. They also say that, out of their own frustration, they sometimes grab him by the shoulders and tell him to slow down because his hyperactivity is so severe.

Treatment: Work Completion (Behavioral Intervention)
It is recommended that Jimmy receive a behavioral intervention designed to improve his work completion. Specifically, the school psychologist recommended a timer work completion intervention, which will be run by Jimmy's teacher. The timer intervention is used in order to help Jimmy to better complete his work during independent work time. The intervention involves modifying any questions or problems that may be too difficult for Jimmy on the assignment, as well as using a timer to ensure that he completes his work in a timely fashion. Jimmy's teacher will place a timer on Jimmy's desk during any independent seat-work time. She should then instruct him to begin completing his work for that session, giving him five minutes to complete the first problem. If Jimmy completes the problem before the timer gets to zero, he earns three minutes of computer access that day during the "free time" period. The teacher should complete this process for each problem in his assignment, recording how many problems Jimmy completes on his Work Completion Chart. She also records the number of problems that he completes correctly. This intervention is meant to target student's off-task behavior, and increase the amount of assignments completed.

4. No label, 5th grade, Work Completion
Jimmy is an eleven year old student who is in the fifth grade. He is considered to by very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist; however he did not qualify as having Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

Further, his peer relationships have been negatively impacted by his equally impulsive interpersonal interactions. Jimmy has difficulty sustaining adequate attention to complete tasks, group assignments, or play activities with his friends and peers. When completing assignments with classmates, Jimmy often blurts out comments or answers while other

students are speaking. During playtime, he tends to interrupt or intrude on a game that is already in process. He habitually leaves a game or activity before the group is finished playing. Because he doesn't often complete activities, Jimmy's classmates often refuse to work or play with him. As a result of his disruptive behaviors and inability to complete poor work completion with peers, Jimmy is not well-liked by his classmates.

At home, Jimmy's parents consider him a handful. They report that he is often forgetful and disorganized. They notice that he dislikes and avoids carrying out tasks that require continual mental exertion, such as homework. As a result of a vicious cycle he starts an activity, gets bored with the activity and then starts another activity. His room is always messy because he becomes engaged in a game only to drop it to start something else. His parents report that they often scold him for not carrying out some task, although the reason seems to be that he forgot rather than that he deliberately tries to defy them. They also say that, out of their own frustration, they sometimes grab him by the shoulders and tell him to slow down because his hyperactivity is so severe.

Treatment: Work Completion (Behavioral Intervention)
It is recommended that Jimmy receive a behavioral intervention designed to improve his work completion. Specifically, the school psychologist recommended a timer work completion intervention, which will be run by Jimmy's teacher. The timer intervention is used in order to help Jimmy to better complete his work during independent work time. The intervention involves modifying any questions or problems that may be too difficult for Jimmy on the assignment, as well as using a timer to ensure that he completes his work in a timely fashion. Jimmy's teacher will place a timer on Jimmy's desk during any independent seat-work time. She should then instruct him to begin completing his work for that session, giving him five minutes to complete the first problem. If Jimmy completes the problem before the timer gets to zero, he earns three minutes of computer access that day during the "free time" period. The teacher should complete this process for each problem in his assignment, recording how many problems Jimmy completes on his Work Completion Chart. She also records the number of problems that he completes correctly. This intervention is meant to target student's off-task behavior, and increase the amount of assignments completed.

5. Label, 1st grade, Medication
Jimmy is a six year old student who is in the first grade. He is very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist and diagnosed with Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

Further, his peer relationships have been negatively impacted by his equally impulsive interpersonal interactions. Jimmy has difficulty sustaining adequate attention to complete tasks, group assignments, or play activities with his friends and peers. When completing assignments with classmates, Jimmy often blurts out comments or answers while other students are speaking. During playtime, he tends to interrupt or intrude on a game that is already in process. He habitually leaves a game or activity before the group is finished playing. Because he doesn't often complete activities, Jimmy's classmates often refuse to work or play with him. As a result of his disruptive behaviors and inability to complete poor work completion with peers, Jimmy is not well-liked by his classmates.

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Treatment: Medication

It is recommended Jimmy also be treated with medication designed to target his off task behavior in school. Specifically, the doctor recommended Adderall, which will be given to Jimmy every morning by his mother. Adderall is a central nervous system stimulant. It affects chemicals in the brain and nerves that contribute to hyperactivity and impulse control. Adderall is approved by the US Food and Drug Administration (FDA) and is used in order to help treat inattention, hyperactivity, and impulsivity in children, adolescents, and adults. Adderall's effects are similar to other CNS stimulants of the same class and preparation that act by increasing levels of norepinephrine, serotonin, and dopamine in the brain. The most common side effects include headache or dizziness, sleep problems, dry mouth, diarrhea, loss of appetite and weight loss. Jimmy's mother will be asked to administer the doctor's recommended dosage of Adderall to him every morning at breakfast time before he leaves for school. This medication is meant to target and provide relief from ADHD symptoms such as hyperactivity, impulsivity, and inattention throughout the day.

6.Label, 5th grade, Medication

Jimmy is an eleven year old student in the fifth grade. He is very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist and diagnosed with Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he

completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

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7. No label, 1st grade, Medication
Jimmy is a six year old student who is in the first grade. He is considered to by very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist; however he did not qualify as having Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few

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Treatment: Medication

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8. No label, 5th grade, Medication
Jimmy is an eleven year old student who is in the fifth grade. He is considered to by very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist; however he did not qualify as having Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

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will be asked to administer the doctor's recommended dosage of Adderall to him every morning at breakfast time before he leaves for school. This medication is meant to target and provide relief from ADHD symptoms such as hyperactivity, impulsivity, and inattention throughout the day.

9. Label, 1st grade, Combined
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10.Label, 5th grade, Combined

Jimmy is an eleven year old student in the fifth grade. He is very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist and diagnosed with Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

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Treatment: Work Completion (Behavioral Intervention)

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Treatment: Medication

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11. No label, 1st grade, Combined
Jimmy is a six year old student who is in the first grade. He is considered to by very inattentive, hyperactive, and impulsive. He has been evaluated by a School Psychologist; however he did not qualify as having Attention Deficit/ Hyperactivity Disorder. At school, his classroom teacher has noticed that Jimmy rarely spends more than a few minutes on a task without some interruption: He gets up out of his seat, rifles through his desk, or constantly asks questions. Jimmy often begins a task, moves on to another, and then turns to something else, prior to completing any one task. He is only able to complete assignments and remain on task when he receives one-one-one attention. When he does complete his assignments he completes them accurately. As such, his teacher is concerned since he almost never finishes his class work or homework assignments. He gets easily distracted by the other students and at times is caught daydreaming in class. His inability to follow through on instructions has begun to frustrate and annoy his classroom teacher.

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Treatment: Work Completion (Behavioral Intervention)
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Attribution Ratings

Please rate your response for each of the following questions on the designated scale from 1 to 6. (Note: scales will be portrayed in on a continuum Likert fashion).

1. Locus: Do you think Jimmy's behaviors are due to internal, personal characteristics, or are external, environmentally controlled?
   1-Completely due to internal causes
   2- Almost completely due to internal causes
   3- Somewhat due to internal causes
   4- Somewhat due to external causes
   5- Almost completely due to external causes
   6- Completely due to external causes

2. Stability: Do you believe Jimmy's difficulties are stable and long lasting or unstable and temporary?
   1- Completely stable
   2- Almost completely stable
   3- Somewhat stable
   4- Somewhat unstable
   5- Almost completely unstable
   6- Completely unstable

3. Controllability: Do you believe Jimmy's behavior is within his control, or outside of his control?
   1- Completely within Jimmy's control
   2- Almost completely within Jimmy's control
   3- Somewhat within Jimmy's control
   4- Somewhat outside his control
   5- Almost completely outside his control
   6- Completely outside his control

IRP-15: Please rate the intervention treatment along the following dimensions.

Please click the box which best describes your agreement or disagreement with each statement.

	Strongly Disagree	Disagree	Disagree Slightly	Slightly Agree	Agree	Strongly Agree
1. This would be an acceptable intervention for a child's problem behavior.	☐	☐	☐	☐	☐	☐
2. Most teachers would find this intervention appropriate for behavior problems in addition to the one described.	☐	☐	☐	☐	☐	☐
3. This intervention should prove effective in changing the child's behavior.	☐	☐	☐	☐	☐	☐
4. I would suggest this intervention to other teachers.	☐	☐	☐	☐	☐	☐
5. The child's behavior is severe enough to warrant use of this intervention.	☐	☐	☐	☐	☐	☐
6. Most teachers would find this intervention suitable for the behavior problem described.	☐	☐	☐	☐	☐	☐
7. I would be willing to use this intervention in the classroom setting.	☐	☐	☐	☐	☐	☐
8. This intervention would not result in negative side-effects for the child.	☐	☐	☐	☐	☐	☐
9. This intervention would be appropriate for a variety of children.	☐	☐	☐	☐	☐	☐
10. This intervention is consistent with those I have used in classroom settings.	☐	☐	☐	☐	☐	☐
11. This intervention was a fair way to handle the child's problem.	☐	☐	☐	☐	☐	☐
12. This intervention is reasonable for the problem behavior described.	☐	☐	☐	☐	☐	☐
13. I liked the procedures used in this intervention.	☐	☐	☐	☐	☐	☐
14. This intervention is a good way to handle this child's behavior.	☐	☐	☐	☐	☐	☐
15. Overall, this intervention would be beneficial for a child.	☐	☐	☐	☐	☐	☐

Prognostic Outlook

Given this case description and diagnosis please respond to the following questions using a scale from 1 to 10.

"1" meaning extremely unlikely and "10" meaning extremely likely.

1. The child will develop adequate and appropriate peer relationships.
2. The child will develop adequate and appropriate relationships with family.
3. The child will develop adequate and appropriate relationships with school staff.
4. The child will obtain a high school diploma.
5. The child will obtain and hold a job for a reasonable length of time (1 year or more).
6. The child will continue to be a disruptive force in the classroom.
7. The child will have problems with law enforcement authorities in the future.
8. The child will need constant supervision by teachers to be successful in school.

Please rate this item from 1 to 10 also. "1" extremely poor adjustment to "10 extremely well

9. What is the child's overall level of adjustment?

Knowledge of Attention Deficit Disorder Scale

Please answer the following questions regarding Attention-Deficit/Hyperactivity Disorders (ADHD). If you are unsure of an answer, respond Don't Know (DK), DO NOT GUESS.

True (T), False (F), or Don't Know (DK) (circle one):

1. T F DK	Most estimates suggest that ADHD occurs in approximately 15% of school age children.
2. T F DK	Current research suggests that ADHD is largely the result of ineffective parenting skills.
3. T F DK	ADHD children are frequently distracted by extraneous stimuli.
4. T F DK	ADHD children are typically more compliant with their fathers than with their mothers.
5. T F DK	In order to be diagnosed with ADHD, the child's symptoms must have been present before age 7.
6. T F DK	ADHD is more common in the 1st degree biological relatives (i.e. mother, father) of children with ADHD than in the general population.
7. T F DK	One symptom of ADHD children is that they have been physically cruel to other people.
8. T F DK	Antidepressant drugs have been effective in reducing symptoms for many ADHD children.
9. T F DK	ADHD children often fidget or squirm in their seats.
10. T F DK	Parent and teacher training in managing an ADHD child are generally effective when combined with medication treatment.
11. T F DK	It is common for ADHD children to have an inflated sense of self-esteem or grandiosity.
12. T F DK	When treatment of an ADHD child is terminated, it is rare for the child's symptoms to return.
13. T F DK	It is possible for an adult to be diagnosed with ADHD.
14. T F DK	ADHD children often have a history of stealing or destroying other people's things .

15. T F DK Side effects of stimulant drugs used for treatment of ADHD may include mild insomnia and appetite reduction.

16. T F DK Current wisdom about ADHD suggests two clusters of symptoms: One of inattention and another consisting of hyperactivity/ impulsivity.

17. T F DK Symptoms of depression are found more frequently in ADHD children than in non-ADHD children.

18. T F DK Individual psychotherapy is usually sufficient for the treatment of most ADHD children.

19. T F DK Most ADHD children "outgrow" their symptoms by the onset of puberty and subsequently function normally in adulthood.

20. T F DK In severe cases of ADHD, medication is often used before other behavior modification techniques are attempted.

21. T F DK In order to be diagnosed as ADHD, a child must exhibit relevant symptoms in two or more settings (e.g., home, school).

22. T F DK If an ADHD child is able to demonstrate sustained attention to video games or TV for over an hour, that child is also able to sustain attention for at least an hour of class or homework.

23. T F DK Reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of ADHD.

24. T F DK A diagnosis of ADHD by itself makes a child eligible for placement in special education.

25. T F DK Stimulant drugs are the most common type of drug used to treat children with ADHD.

26. T F DK ADHD children often have difficulties organizing tasks and activities.

27. T F DK ADHD children generally experience more problems in novel situations than in familiar situations.

28. T F DK There are specific physical features which can be identified by medical doctors (e.g. pediatrician) in making a definitive diagnosis of ADHD.

29. T F DK In school age children, the prevalence of ADHD in males and

females is equivalent.

30. T F DK In very young children (less than 4 years old), the problem behaviors of ADHD children (e.g. hyperactivity, inattention) are distinctly different from age-appropriate behaviors of non-ADHD children.

31. T F DK Children with ADHD are more distinguishable from normal children in a classroom setting than in a free play situation.

32. T F DK The majority of ADHD children evidence some degree of poor school performance in the elementary school years.

33. T F DK Symptoms of ADHD are often seen in non-ADHD children who come from inadequate and chaotic home environments.

34. T F DK Behavioral/Psychological interventions for children with ADHD focus primarily on the child's problems with inattention.

35. T F DK Electroconvulsive Therapy (i.e. shock treatment) has been found to be an effective treatment for severe cases of ADHD.

36. T F DK Treatments for ADHD which focus primarily on punishment have been found to be the most effective in reducing the symptoms of ADHD.

37. T F DK Research has shown that prolonged use of stimulant medications leads to increased addiction (i.e., drug, alcohol) in adulthood.

38. T F DK If a child responds to stimulant medications (e.g., Ritalin), then they probably have ADHD.

39. T F DK Children with ADHD generally display an inflexible adherence to specific routines or rituals.

Participant Information
Please complete the following:

Gender:
___ Male
___ Female

Enter your age: ___

Race/Ethnicity
___ Caucasian
___ African American
___ Hispanic
___ Native-American
___ Asian-American
___ Other (please specify)

Number of years you have taught:
___ 1-5 years
___ 6-10 years
___ 11-20 years
___ More than 20 years

What grade are you currently teaching?:
Kindergarten
___ 1st grade
___ 2nd grade
___ 3rd grade
___ 4th or 5th grade

Do you have a child who has been diagnosed with Attention-Deficit Hyperactivity Disorder?
___ Yes
___ No

APPENDIX C – Institutional Review Board Approval Page

Oklahoma State University Institutional Review Board

Date:	Thursday, November 15, 2007
IRB Application No	ED07104
Proposal Title:	Teachers' Beliefs About Children With Attentional and Behavioral Difficulties
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 11/14/2008

Principal Investigator(s)

Amanda Stinson
443 Willard
Stillwater, OK 74078

Terry Stinnett
445 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Sue C. Jacobs, Chair
Institutional Review Board

VITA

Amanda Marie Stinson

Candidate for the Degree of

Doctor of Philosophy

Dissertation: TEACHER BELIEFS ABOUT STUDENTS WITH ATTENTION AND BEHAVIORAL DIFFICULTIES

Major Field: Educational Psychology with an option in School Psychology

Biographical:

Personal Data: I grew up in a Houston, Texas where my parents currently live. I have two sisters, two brothers-in-law, two nieces, and a nephew who currently live in Houston, Texas. I enjoy running, outdoor activities, and spending time with my family.

Education:

Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in July, 2009.

Attended Oklahoma State University from 2004-2009 and graduated with a Master of Science in Educational psychology in December 2005.

Attended Loyola University, New Orleans from 2000-2004 and graduated with Bachelor of Arts, Major: Psychology, Minor: Sociology

Experience:
I completed my practica in Stillwater Public Schools and the Oklahoma State University School Psychology Clinic. My APA internship was completed at Boys Town, Clinical Services.

Professional Memberships:
American Psychological Association, Student Member
National Association of School Psychologists, Student Member

Name: Amanda M. Stinson Date of Degree: July, 2009

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: TEACHER BELIEFS ABOUT STUDENTS WITH ATTENTION AND BEHAVIORAL DIFFICULTIES

Pages in Study: 184 Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology with an Option in School Psychology

Scope and Method of Study: The current study attempted to extend the current literature on the topic of teacher beliefs about students with attention and behavior difficulties. Teachers' attributions, prognostic outlook, and willingness to accept treatments for students with attention and behavior problems were studied using hypothetical scenarios about a child who was either labeled ADHD or not labeled ADHD. The child in the vignette was also either a 6 year old boy or an 11 year old boy who received either stimulant medication, behavioral intervention, or a combined treatment. Teacher's acceptability of the proposed treatment was measured using the Intervention Rating Profile – 15 (IRP-15) to assess whether treatment acceptability varied as a function of the label, age, and treatment conditions. Prognostic outlook for the child was also assessed to measure teacher beliefs about the child's likelihood for future success or failure, likelihood for further classroom disruption, and likelihood for success or failure in interpersonal relationships. Teachers were also asked to rate their attributions of the child's behavior. Items were designed to reflect each of the three causal attributions, locus, stability, and controllability, and teachers were asked to make their attributions of the child in the vignette along the three dimensions.

Findings and Conclusions: Teacher attributions of the child in the vignette did not differ based on label, age, and treatment. Overall, teachers attributed the cause of the child's behavior to internal, stable, and uncontrollable factors regardless of the label, age, and treatment condition. Teachers rated interventions as more acceptable when the child was labeled ADHD, with the work completion intervention rated as more acceptable for the 6 year old condition and stimulant medication rated higher for the 11 year old condition. Prognostic outlook ratings were highest when the child received the combined treatment package and lowest when the child was given the work completion intervention.

ADVISER'S APPROVAL: Terry Stinnett, Ph.D.