THE EFFECTS OF LABELING AND TEACHER KNOWLEDGE OF AUTISM ON ATTRIBUTIONS MADE ABOUT STUDENTS WITH AUTISM SPECTRUM DISORDERS

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2006

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2008

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July, 2012

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TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

"Success and failure in achievement settings do not occur in a vacuum. Quite the contrary there is a rich social context that effects and is affected by achievement performance. This social environment includes peers, parents and teachers, who experience happiness and sadness given the performance of the students, who reward, punish, help, or neglect" (Weiner, 2000, p.7). There is a need to examine any extrinsic factors which might influence a child's success or failure.

Attribution theory is a model for explaining how social beliefs may influence a person's way of thinking. Graham (1988) believed attribution theory is often used as a mechanism by people to answer why questions. For example, a student asks, "why did I fail the test?" The student may think because the test was too difficult, because they did not study enough, or because the teacher did not like them. Often attributions are made after experiencing failure. Many students interpret how their teacher communicates to them after an academic failure and this tells the students whether to attribute failure to lack of effort or lack of skill (Graham, 1988). Attributions of teachers are important to study because of the inclusion of students with disabilities in the classroom. These students often have a history of school failure. Attribution theory suggests that the

result of an action depends on two sets of conditions, factors within the person, and factors within the environment. Attributions of causality can be internal (controllable) or external (uncontrollable). For example, when a child's failure is attributed to a disability, teachers may perceive the child's failure is due to internal characteristics that are unchangeable and out of the student's control. Teachers view ability to be an internal construct over which the student has no control (Graham, 1991). The most common attributions teachers make about student performance problems are ability (uncontrollable) and effort (controllable) (Burger, Cooper, & Good, 1982). Teachers also may attribute a student's poor performance to lack of studying or effort. Another construct in attribution theory is locus of control. This refers to feelings of self-esteem, shame, or guilt that are based on one's perception of the location of the cause of success or failure. The locus dimension is usually linked to pride and other self-esteem related effects. The third example of attribution theory is stability. Stability refers to expectations for the future, which is based on whether the cause is perceived as stable or unstable across time. Stability influences changes in goal anticipation by affecting mood and effort.

Some attributions are positive and some are negative. In educational settings, negative attributions are often made about children with learning disabilities. Teacher expectations concerning students are frequently based on information acquired prior to any direct observation or interaction with students. It is important to investigate teacher's attributions because teacher often may play a huge role in the child's behavior and predict the success of a child in their class. Labeling bias is an expectation about a person who has a specific label (Fox and Stinnett, 1996 phenomena where perceptions, interpretations, evaluations, or judgments of different targets depend on which group the target belongs too.

Research has shown that labeling students may be detrimental. According to Tilzer (1987), "Labels are useful in that they help define and recognize a problem, they may have a serious damaging impact upon the child's self-esteem as well as the perceptions of others who come in contact with the labeled child" (p 1). Past research suggests that applying a disability label to children results in lower expectations from teachers, especially for those labeled as mentally retarded (Rolison & Medway,1985; Thelen, Burns, & Christiansen, 2003). Teachers and parents may have lowered expectations for students labeled with disabilities. Children with disability labels may perform poorly because they have been treated like they have low ability, and they expect they cannot learn. Corbett (1995) also reported that labels affect judgments, and performance expectations for those labeled which may stigmatize the students.

Consistent with past research (Georgiou, 1999; Graham & Weiner, 1986; Tollefson & Chen, 1988), labeling a student with a disorder or as a low achieving student, may elicit attributions from teachers that also affects teacher behavior. The specific label may impact teacher expectations for certain behaviors that will be displayed by the student (Allgozzine, Mercer, & Countermine, 1977). Some labels are more powerful elicitors than are others.

This study will examine teachers' attributions of students with Autism Spectrum Disorders and the relationship of knowledge and education of these disorders. While previous research has focused mostly on attributions, labels, and education about labels, in general little research has been done specifically examining attributions of children with Autism and Asperger's Disorder. It is important for teachers to have knowledge of Autism Spectrum Disorders because of the increasing number of students with disabilities being included in the classroom, for identification purposes, and for classroom management.

Many general education teachers are not prepared for working with students with disabilities. Teachers who do not understand a student's cognitive impairment might expect more from a student than he or she is capable of producing and this can result in frustration and failure for the child. Teachers' attributions toward students with disabilities may signify a belief that there is stability in the child's function across time, meaning that the child's performance is unlikely to change, as they grow older.

CHAPTER II

REVIEW OF LITERATURE

Attribution Theory

Attribution theory describes how social beliefs may influence a persons' way of thinking and how attributions may explain events in their everyday experiences. Fritz Heider (1958) the originator of attribution theory, stated that the interpretation of an action depends on two sets of conditions, factors within the person, and factors within the environment. Attribution theory offers an explanation of how and why we explain the event particularly, when the event is something negative or unexpected. In addition, this theory seeks to examine outcomes or events that may result from different attributions (Heider, 1958). Georgiou, Constantinos, Stavrinides, and Panaoura (2002) examined the relationship between teacher attributions about student school failure and teacher behavior toward the failing student. The results indicated teachers tend to behave in ways that indicate more pity and less anger when they attribute a student's low achievement to a student's low ability compared to students who have low achievement because of the students' low effort. The teachers; were less likely to accept some responsibility for student failure if they perceived the student had given low effort. This suggests that the

interpretation of an event is more important than the event. Heider (1958) also hypothesized that people make more attributions when they have limited amounts of information.

> The underlying causes of events, especially the motives of other persons, are the invariances of environment that are relevant to him; they give meaning to what he experiences and it is these meaning that are recorded in his life, space, and are precipitated as the reality of the environment to which he then reacts (1958, p.81).

Attribution theory has implications for the education process. Attribution theory may be useful to predict the achievement, behavior, and attitudes of students and teachers. Teachers without prior knowledge or experience with students with disabilities may make attributions about the child that negatively affect the student.

Attribution and Dimension of Causality

Attribution theory was developed to explain how people think about the causes of success and failures. Perceptions of causality influence our own self-concept expectations for future conditions, feelings of potency, and ensuing motivation to give effort. Perceptions of causality can also serve to stimulate motivation. People explain success and failures in at least three different ways. For example, they may attribute success or failure to internal or external, stable or unstable, and controllable and uncontrollable factors.

There are three types of causal dimensions of attributions (Weiner, 1985). The first is Locus of Causality. Locus refers to feelings of self-esteem, shame, or guilt that are based on one's perception of the location of the cause of success or failure. The locus dimension is usually linked to pride and other self-esteem related effects. The locus is

either internal or external. Internal factors are characteristics believed to be within the person and external factors are attributed to things in the environment. For example, internal factors would consist of effort put into an assignment. An example of an external attribution would be blaming a failure on a test difficulty. Stability refers to expectations for the future, which is based on whether the cause is perceived as stable or unstable across time. Stability influences changes in goal anticipation by affecting mood and effort. The last dimension of attribution is controllability. Controllability is an aspect of causality related to an individual's feeling of potency to affect the outcome by controlling the cause (Hunter & Barker, 1987). This dimension is linked to a set of emotions that include guilt, shame, pity, and anger. For example, the ability of the student is seen as uncontrollable while effort and mood are seen as controllable.

Teachers make specific attributions for children with disabilities and may not treat these students like every other student. This is a dilemma because students with disabilities are now being integrated in general education classrooms. Burns (2000) stated academic achievement is linked to attribution theory by the factor known as locus of control. Hunter and Barker (1987) noted important implications for locus, stability, and controllability linked to teachers. First, "the locus is essential that teachers diagnose where students' learning leaves off and new learning needs to begin" (p.52). For stability, teachers should emphasize that "you can do it if you try" (p.52) and ensuring they express to students ability and effort equals success. A teacher can convey controllability by how they respond to a student's success or failure. This can signal the teachers' belief to the student as whether the students are in control of their success or failure.

Rotter developed the theory of locus of control in 1966. Rotter believed this theory identified an internal versus external personality tendencies in people; “A person with an internal locus of control views themselves as in control of the outcomes of behavior, while a person with an external locus of control views their outcomes as controlled by fate, luck, or chance” (Rotter, 1990 p. 489). Locus of control has been posited to connect achievement to attribution theory (Burns, 2000). It explains failures when the environment does not supply obvious explanations. If failure is perceived to be caused by low intelligence, it may create learned-helplessness and minimize motivation created by internal stable attributions that are linked with learned helplessness. Heider (1958) believed people who are internal in locus of control are “better” in everything, such as health and school, than people who are external.

There are many different ways attributions affect students. When a student’s negative behavior is viewed as uncontrollable it is less likely to be stigmatized than if those behaviors perceived to be under the child’s control. (Musher-Eizenman, Holub, Miller, Goldsetin, & Edwards-Leeper, 2004). Weiner (1993) also stated a student who fails with a controllable condition is considered a “moral failure” while a student who fails because of an uncontrollable condition is often considered an “innocent victim” (p 960). When attributions following a failure are made about the self, and the individual believes there was personal control, the student may become distant and angry with himself or herself. If the student is perceived to not have control teachers may help and show sympathy.

Attribution Theory and Education

Weiner's (1979) attribution theory has been applied to education. He believed attribution theory may predict teacher attitudes towards students with disabilities. "The theory posits that when teachers believe that students make an intentional choice, particularly regarding defiant and hostile behavior, they blame students for the behavior and tend to reject them" (p.309). If a teacher sees there is a noticeable disability, they may blame behavior and poor performance on the disability. This means the teacher may accept poor performance and will not try to help them (Cook, 2004).

Kistener, Osborne, and Verrier (1988) examined attributions that students with Learning Disabilities (LD) made about failures. Forty-eight students took the Effort-Ability-External Scale, Peabody Individual Achievement Test, and their teachers completed the Child Behavior Inventory. Results indicated that students with LD who attributed failures to controllable causes had greater gains in achievement, which is consistent with Weiner's theory of achievement motivation. If the student believes the failure is uncontrollable, he or she may give up and not show much improvement in achievement.

The Effects of Attribution on Teacher Behavior

There has been little research on the effects of attribution on teachers' behavior. Teachers' behavior toward students is very important in the education process. Students may be at risk for self-blame and learned helplessness if a teacher's behavior is negative towards the student with of a disability. Rosenthal and Jacobson (1968) examined teacher bias by informing teachers that certain students would have more academic growth based on the results of a fictitious test called the Harvard Test of Inflected Acquisition. Results

indicated that teachers expected certain students to show more intellectual development and those students showed greater intellectual development than those who were expected to show less intellectual development.

Cooper and Barron (1979) examined the relative contribution to behavior made by performance expectations and attributions of personal responsibility. Three teachers selected students for whom they had high, medium, and low expectation in each class. Teachers completed a responsibility and expectation rating of the students, and actual classroom behavior was observed. The results indicated performance expectations were more effective predictors of teachers' feedback behavior than were attributions of responsibility. High-expectation females were praised more freely than were other students. In addition, students identified as smart were given more praise than were average students. Low expectation students tended to be criticized more freely than were high expectation students. This might create interactions that are unsuccessful and time consuming. Tilzer (1987) reported teachers are supportive of "gifted" students. For example, teachers nodded, smiled, called on more, and gave them longer time to answer than regular or students with LD.

Guttmann (1982) conducted a study with teachers, pupils, and parents. All participants made attributions using hypothetical academic and behavioral situations. Results indicated students tend to blame all others more than blaming themselves for failure. Teachers tended to blame the child first and the parents second, while downplaying the importance of reasons associated with other children in the class or reasons associated with themselves. The parents attributed even patterns of degree of blame to the child, teacher, other children, and themselves. Lane, Pierson, and Givner

(2003) found students who do not match teacher expectations are at risk for underachievement and bad behavior. If negative attributions are made about the student by the teacher before entering the class the student's success rate in the classroom could be minimal.

Teacher Attributions of Ability, Effort, Failure, and Success

Research has also examined teacher attributions of students who have been labeled with behavioral and special education diagnoses, and those who have not. Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum (1971, p.4) wrote:

Ability and motivation (effort) attributions differentially influence rewards and punishments. Among pupils either with or without ability, those who are perceived as having expended effort are rewarded more [for success] and punished less [for failure] than pupils believed not to have tried. Conversely, given either effort or no effort, low ability pupils are rewarded more and punished less than pupils believed to possess ability ….. In addition,…effort is a more salient determinant of rewards and punishments than is ability.

This representation offers a structure for understanding teacher behavior in relation to student performance. Teacher expectations concerning students are frequently based on information acquired prior to any direct observation or interaction with them. Teachers' expectations play a huge role in the child's behavior. Students who do not have the skills to meet the teacher's expectations are in danger of depreciatory outcomes including poor school adjustment in the form of impaired relationships with teachers and peers, poor academic achievement, and high rates of disciplinary problems (Cole & Jacobs, 1993; O'Shaughnessy, Lane, Gresham, & Beebe-Frankenberger, 2002; Walker,

Colvin, & Ramsey, 1995; Walker, Irvin, Noell & Singer 1992; Walker & Serverson, 2002).

Weiner (1979) believed there were four causes of behavior: ability, effort, task difficulty, and luck. Ability is mostly internal and stable but uncontrollable, while effort is unstable but controllable. Task difficulty is external and stable but out of our control, while luck is external, unstable, and out of our control. In achievement context, success and failure normally are attributed to some ability factor that comprise both aptitude and acquired skills, an exertion factor including both aptitude and acquired skills, exertion factor such as temporary or sustained effort, the difficulty of a task, personality, mood, and help or hindrance from others (Graham, 1991). Cooper 1979 (p.399) found teachers will tend not to praise strong efforts from lows because praise may reduce future personal control by encouraging initiations. Teachers may tend to be more critical of weak efforts from lows since criticism increases control. In evaluating highs, teachers may dispense praise and criticism with greater dependence on exhibited effort, since future control of highs' behavior is not as necessary.

Tollefson and Chen (1988) also studied the relationship between teachers' willingness to praise and to help students, based on their internal and external attributions. Teachers were given vignettes of students asking for help. In some situations, the student was depicted as having low ability. In other situations, the student was depicted as having high ability or low effort. Teachers described their expectation of success for low ability students were only moderate and they would be more agreeable to help the student with low ability. Teachers reported being more likely to enjoy working with him or her. Additionally, the teachers pointed out they would be more likely to

praise and less likely to criticize or get angry at the low ability students. Some research finds teachers respond to low ability with help and pity, while low effort they usually respond with anger (Butler, 1994). Teachers often directly and purposely tell students they did not give enough effort. Cooper (1983) found low expectation students have fewer opportunities to learn and easier material is taught.

Attribution of theory in education suggests that when a student puts forth little effort, (controllable) then expectations for next time should be higher achievement if the student tries. However, if a low ability student fails, (uncontrollable) then expectations for next time will be poor performance resulting in poorer motivation to perform better (Weiner, 1985). Matteucci and Gosling (2004) measured causal attributions made by teachers about students' responsibility to complete a task. Teachers were more likely to pass students lacking ability than students who were failing because of little effort. Failure may occur because of any of the following: lack of effort, the absence of ability, poor strategy, bad luck, the bias of teachers, barrier from peers, and illness. Weiner (1993) stated, "Lack of effort as a cause of achievement failure evokes more punishment than does lack of ability" (p 1). Medway (1979) also found teachers attributed behavior problems to home causes rather than to the school or themselves. For example, if the student failed his or her spelling test the teacher might contend that the child's parents did not have him or her study. Cooper and Lowe (1977) found the exact opposite. The researchers indicated teachers held problem students responsible for poor schoolwork by saying the students put in little effort. In addition, the teachers gave more negative criticism to the children with problems than peers with no problems. This implies teachers are more likely to focus on student's effort than ability cues.

When failure is associated with a perceived disability, teachers often believe the failure is a result of the child's internal characteristics that are unchangeable and out of the student's control. Teachers also view ability to be an internal construct over which the student has no control (Graham, 1991). The most common attributions teachers make are related to ability and effort (Burger, Cooper, & Good, 1982). Graham (1991) suggests achievement, success, and failure are frequently attributed to ability and effort. For example, teachers are more inclined to attribute a student's failure or success to low or high ability or high or low effort. Many researchers have 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).

Low ability is likely to achieve greater reward and less punishment than high ability. Often teachers see low effort to be a controllable construct (Burger, Cooper, & Good, 1982; Medway, 1979; Weiner, 1985). Low ability is perceived as not controllable and therefore the teacher may not hold the child responsible for poor performance because the teacher believes the student does not have the ability to succeed. This would mean that when failure is attributed to a disability, teachers are likely to attribute the event to internal characteristics that are unchangeable and out of the student's control (Graham, 1991). This depends upon whether a teacher attributes a student's high or low achievement, failure or success, or cause of his or her disability to internal or external factors. These attributes are likely to have an effect on their eagerness to treat and intervene with the student. Musher-Eizenman, Holub, Miller, Goldsetin, and Edwards-Leeper (2004) also found when attributions occur that suggest the student had control over his or her performance he or she may become distant and angry with himself or

herself but if the performance was viewed as uncontrollable then teachers will help and show sympathy.

Researchers indicate teachers tend to blame the students rather than themselves for the student's poor achievement. Ross, Cousins, and Gadalla (1996) suggested that "teacher locus of control" is the teachers' willingness to attribute student outcome to their own teaching performance. For example, teachers with high self-efficacy take responsibility for students' successes and failures more so than teachers with low self-efficacy. Chester and Beaudin (1996) also found teachers with high-efficacy were more likely to help lower achieving students during failure and praise them more and criticize less than were teachers with low self-efficacy. This indicates that not only do students benefit from high levels of self-efficacy teachers do at well. This may suggest schools need to work with teachers to increase their self-efficacy levels. Regardless of the type of attribution made i.e., ability, effort, failure, and success, teachers are key factors influencing student outcomes. The beliefs of each individual teacher can influence the class and students achievement positively or negatively.

Teachers Attributions of Disorders

Most research focuses on teachers overall attributions about students and does not focus on one specific disorder. Clark (1997) examined the degree that teachers' knowledge of the presence or absence of learning disability would influence reward and punishment given, pity and anger, and expectations for the students' future. Ninety-seven general education teachers received one of eight vignettes of a hypothetical boy who had just taken a typical classroom test and failed. Results indicated teachers gave greater rewards and less punishment, less anger and more pity, and higher expectations of future

failure to the boy with LD when compared with their non-disabled boys with the same ability and effort matches. This example of teacher affect and response can send harmful messages that are often interpreted as low-ability cues, therefore affecting students' self-esteem, sense of competence as learners, and motivation to achieve.

Brady and Woolfson (2008) examined specific experiences of teaching children with learning difficulties, postgraduate qualifications on teachers' role, teaching efficacy, and attitudes towards disabled students on teachers' attributions about children's difficulties in learning. One-hundred twenty-five primary school teachers completed Teacher Attribution Scale, Interaction with Disabled Persons Scale, Brief COPE-Learning Difficulties, and the Life Orientation Test-Revised. Results indicated teachers with higher efficacy and teachers with more experience attribute learner failure in class more to external factors than compared to teachers with less experience with high need students and lower teaching efficacy. Teachers who did not feel elevated levels of sympathy viewed learner's difficulties as more flexible to change. General education teachers were also less positive about learner progress than were special education teachers. In a follow-up study, Woolfson and Brady (2009) examined teachers' attributions about childrens' difficulty in learning and the influence of self-efficacy and attitudes toward disability. One-hundred ninety-nine primary school teachers in western Scotland were given an information sheet and questionnaires that contained the Teacher Attribution Scale, Interaction with Disabled Persons Scale, Brief COPE- Learning Difficulties, and the Life Orientation Test-Revised scale. The results indicated that teachers lower sympathy and predicted positive teacher attributions about learner change.

This suggests that high levels of sympathy, rather than being helpful, may lower teacher expectations

Labeling Bias

A label often influences how people judge and evaluate people and situations. A person with a label may have attributions placed on them that are central and long lasting (Yamauchi, 2005). Labeling a student disabled usually is associated with poor performance (Taylor, Smiley, & Ziegler, 1983). Tilzer (1987) stated, "Labels are useful in that they help define and recognize a problem, although they may have a serious damaging impact upon the child's self-esteem as well as the perceptions of others who come in contact with the labeled child" (p 1). Fox and Stinnett (1996) stated labeling bias is an expectation which occurs in relation to a specific label. While Stager, Chassin, and Young (1983) indicated labeling is only negative when the student believes the label placed on them is negative.

Many believe the bias associated with labeling is negative. "The unintended effects of labeling bias are particularly salient as legislatures consider the reauthorization of mandates that implicitly or explicitly acknowledge disability labels" (Thelen, Burns, Christiansen, 2003, p. 183). For example, when someone dwells on the label instead of the disability itself, the label may hinder the child (Tilzer 1987). Also, Field, Hoffman, St. Peter, and Savoilowisky (1992) reported labels were harmful because a student may have a reading problem and is labeled "learning disabled." Then the student has to cope with not being able to read and the perceptions that people have about learning disabled students.

Research has suggested the formation of bias in a general education setting can lead to an alteration of a teacher's perception of a student as a direct result of the bias-creating stimulus. Jacobs (1978) examined the learning disability label as a bias in the general education setting to investigate whether or not communication of the label had an effect on elementary teachers' ability to objectively observe and interpret child behaviors. Results indicated that the label may affect the general education teacher's ability to educate and interpret the child's behavior. If the teacher is unable to evaluate the student objectively the mere presence of the label will serve as a bias to the general education teacher to objectively work with the student.

Many studies have focused on perceptions and interpretations of labels. Jussim, Nelson, Manis, and Soffin (1995) reported the labeling effect is the phenomena where perceptions, interpretations, evaluations, or judgments of different targets depend on which group the target belongs too. Corbett (1995) found labels hinder perception, judgments, and expectation of those labeled which may stigmatize the students. For example, if a person is labeled as a special education student others may focus on what is wrong with the student and not what the child is capable of doing. Chassin, Stager, and Young (1985) found that once a student has been labeled in a school, others see them as deviant individuals and therefore the student accepts this belief. Labels can affect first impressions negatively about intelligence and other characteristics. For example, a labeled person can have his or her failures described in conditions of personal imperfections and his or her successes dismissed as due to external conditions (Norwich, 1999).

Higgins, Raskind, Goldberg, and Herman (2002) studied how students who were labeled learning disabled thought about their label growing up and how it affected their school experience. The majority of students indicated they thought everyone judged them negatively due to their label. Students indicated their individual characteristics were ignored and people look at their negative characteristics regardless of achievements or distinguishing characteristics. Lastly, Smith, Osborne, Crim, and Rhu (1986) asked teachers, counselors, administrators and school psychologists to give a personal definition of a child. Participant's answers varied but some of the reported characteristics included hyperactivity, emotional problems, and retardation.

Effects of Labels on Teacher Attitudes and Expectations

Teacher attitudes and expectations about students are often based on information derived from other individuals or sources prior to meeting them, rather than on direct observation (Rolison & Medway, 1985). Past research suggests that applying a disability label to children results in lower expectations from teachers especially for those labeled as mentally retarded (Rolison & Medway,1985; Thelen, Burns, & Christiansen, 2003). The specific label may also affect teacher expectations for certain behaviors that could be displayed by the student (Allgozzine et al., 1977). Labels may lead tonegative impressions. Failure may be seen as the students' only capability and success seen as a result of external circumstances. Draaisma (2009) discusses how labels initiate a complex interaction between the label and the perception and the understanding of the student because of the label. Autism and Asperger's Disorders hold connotations that influence educational practices. People may be exposed to information about Autism and Asperger's from popular media and movies e.g., *Mercury Rising, Mozart and the Whale,*

Rain Man, and *Snow Cake*. Although some of the portrayals of people with Autism are accurate not all people affected with Autism and Asperger's are alike (Draaisma, 2009). Schools often use categorical classification systems for children with disabilities. These systems require students to be labeled with a specific disorder or disability as specified in state and federal law in order to receive any type of necessary services. Therefore, practitioners need to be aware of labeling effects which might contribute to inadvertent discrimination or elicit negative expectations for the student.

Consistent with past research (Georgiou, 1999; Graham & Weiner, 1986; Tollefson & Chen, 1988) labeling a student with a disorder or as a low achieving student may elicit attributions from teachers that affect teacher behavior. Finn (1972) had teachers rate three students with learning disabilities (LD). The experimental group was told the students had LD while the control group was not. Finn found students labeled LD were perceived negatively, which could cause "detrimental effects to the child" (p 4). This created the argument that labels adversely affected students self-concept and the labels created a "self-fulfilling prophecy" (p 4). Lewin (1968) reported no effects for positive labels but negative labels may have adverse effects. For example, students labeled and put in a lower track, such as non-college bound or slow learner will eventually conform and perform at a lower level. Deno (1973) did research in schools in England and found students placed in a lower track were not only seen negatively by teachers but also other students as well. Deno (1973) suggests that students labeled to have behavior problems or learning disabilities ultimately develop learned helplessness to fit these labels.

Teachers treat students with labels differently. Algozzine, Mercer, and Countermine (1977) found students exhibiting inappropriate or annoying behavior were less tolerated when labeled "learning disabled" than labeled emotionally disturbed. This suggests labels may inform a teacher about expected behavior. Fox and Stinnett (1996) investigated the differences in school psychologists', special education, and general education teachers' beliefs about the likelihood of failure or success of students with behavioral problem labels. The results indicated that the diagnostic label seriously emotionally disturbed elicited more negative expectations than children with the same behaviors who were not labeled. These results are consistent with past research investigating the effects of labeling students on teacher expectations.

Johnson and Blankenship (1984) examined whether a special education minor would decrease the likelihood of pre-service elementary teachers negative expectancies concerning students labeled behavioral disordered. Pre-service teachers were divided into two groups. The first group completed the Behavior Problem Checklist measuring tolerance toward behavior problems and the other group watched two videotapes and was told one of the tapes was of a boy who was labeled with a behavioral disorder. Then subjects completed a Behavior Problem Checklist as a measure of bias. The results indicated both groups were negatively biased toward the behavioral disordered label.

Research has suggested teachers may judge students with labels even more harshly if their behavior is similar to other students without the label. Gillung and Rucker (1977) examined whether teachers lower expectations for children with disabilities who were labeled than children with identical behaviors who were not labeled. The results suggested teachers have lowered expectations for children with disabilities than for those

with the same behavior who are not labeled. Teachers indicated children with labels a needed more academic and behavioral help compared to the students without a label. Levin, Arluke, and Smith (1982) investigated the separate impact of three special education labels and students' behavior on both teachers' expectations and behavioral intentions. Seventy-five high school teachers were asked to read a psychologist's report of a student and make an evaluation of the students' behavior and academic potential. There were four label conditions: dyslexic, Emotionally Disturbed, Mental Retardation, and no disorder. To vary behavior one-half were give a grade-level assignment sample and the other half a below grade level assignment sample. The results indicated there was a significant main effect for label on teachers' optimism about students' future success. Two of the three labels (MR and dyslexic) measured independently had no more impact on teacher's expectations than the student without a label while the ED label had a significant negative impact on the teacher's expectations.

Rolison and Medway (1985) examined the interaction effect of labels and attributions on teacher expectations for students with or without a disability. Participants looked at contrived situations from a student's file to determine if the student had a learning disability or mental retardation. The participants were informed whether the child had attended special education in the past and provided district-wide testing results of student achievement. In general, teachers reported internal factors to have more influence on student performance and achievement than external factors (Rolison & Medway, 1985). Cardell and Parmar (1988) investigated the temperament of characteristics of children classified as LD. They found that teachers consistently had negative perceptions which affected how socially competent the teacher believed the

student to be. Reid and Hresko (1981) stated, "teachers form negative, pre-expectations of learning disabled children even before instruction takes place" (p. 105). This was related to the teacher giving differential treatment because of the negative pre-expectations due to label.

Researchers have proposed theoretical explanations that focus on the effects of special education labels on teacher attributions of these students. Burns (2000) suggested that children with special education labels are likely to have their difficulties attributed to internal characteristics that are stable and out of the student's control. Burns (2000) also suggested that disabilities and intelligence are often seen as internal and stable. This attributional mixture has been linked to learned helplessness in the individual who made these attributions about him or herself. Beliefs in stability are thought to create stronger feelings of failure and less hope for change in the future (Weiner, 1985). As a result, students who are labeled with a disability may be seen by others as unchanging and untreatable.

Allgozzine and Stoller (1980) evaluated the effects of labels and perceived competence on the attributions assigned by special education teachers. Forty-six special education teachers watched a 12-minute color video tape of a boy beginning fourth grade suggesting average intelligence and some minor behavior problems. Teachers received one page case report summary and in addition half-received information from an Learning Disability (LD) teacher an half from and Emotionally Disturbed (ED) teacher. The teachers filled out a questionnaire regarding the child's performance level, expectations, and why the child was referred. Results indicated competence had powerful

positive effects. Competence appeared to be a salient feature on which to make decisions about children.

Frequently students receive labels to qualify for special services under the premise that they can be more successful in school by receiving special education services. Although diagnosis should never be dependent on the services the student will receive, diagnosis may lead to suitable and helpful treatment for many students with disabilities. When labels or diagnoses are appropriate, it is understood that the student will receive services to restore or improve functioning in some way. Ysseldyke and Foster (1978) examined the effects of the labels of emotionally disturbed and learning disabled on initial teacher bias and examined teacher's ability to disregard stereotyped expectancies with behavior inconsistent with labels. Teachers were split into two groups that watched an identical videotape of a non-disabled child. The first group was told the child was evaluated and was not disabled and the second group was told the child was evaluated and was emotional disturbed or learning disabled. Results suggested deviancy labels were given negative stereotypes even with the inconsistent behavior. Also the behavior for both label conditions were rated the same.

Labels also affect teachers grading. Fogel and Nelson, (1983) studied the effects of special education labels on teacher scores and grading. Results indicated that special education labels created bias on teacher's checklist scores but did not create bias on behavioral observations or grading. Martin (1985) and Gordon and Thomas (1967) examined the effects of bias on grading. They found teachers overestimate intellectual capabilities of students they think are adaptable while students with LD were not seen as adaptable and were at a disadvantage in the learning environment.

Teachers do ultimately make judgments about students with labels. Whether the labels are attributed to internal or external factors, these labels affect the student, the teacher, and the student's performance. Sometimes the result is lowering of expectations for the students' abilities or blaming the child for not trying hard enough.

Effects of Labels on Expectations and Attitudes for Students with Disorders

"Teachers' expectations about students are often based on information obtained prior to any direct observation of or interaction with students" (Dusek & Joseph, 1983, p. 328). There has been limited research on the effects of labels for students with Autism Spectrum and other disorders. Most research focuses on labeling disabilities in general, not specific disabilities. Foster, Schmidt, and Sabatino (1976) examined teacher expectancies of the term "learning disabled". Forty-four teachers were divided into two groups and viewed a video of a student. The first group was told the student was evaluated and found "normal" while the second group was told the child was classified as learning disabled. Data obtained strongly suggested the label of learning disabled generated a significant negative bias altering teachers views.

Algozzine (1981) examined the relationship between the diagnostic label assigned to a child and the type of behavior exhibited by that child. Participants were 128 undergraduate students enrolled as special education majors at Penn State. Undergraduate students were asked to complete one of four randomly assigned case studies: two labels (LD and ED) and two characteristic behavior samples (LD and ED). These results indicated labels might generate restrictive tolerance for "acceptable" behavior. In addition, teacher-training programs must begin to acknowledge biases generated by categorical labels and behavioral characteristics that can have detrimental effects on the

perceptions of individuals who will later be working with the child. Rolison and Medway (1985) investigated the effects of student special education labels (no label, learning, disabled, or educable mentally retarded), past performance patterns (ascending or descending), and previous participation in special education (no participation, resource room, self-contained classroom) on teachers expectations regarding future academic performance. Ten teachers were assigned to the 18 different conditions. Teachers received a booklet with general information regarding "Bob", the pattern of manipulation, and questions asking expectations and attributions of the student. The results indicated actual classroom teachers raised or lowered their expectancy according to a students' previous special education label and their past performance.

Thelen, Burns, and Christiansen (2003) examined the effects of teacher expectations, looking specifically at teacher perceptions of the labels: learning disabled, mild mental retardation, and emotional disturbance. One-hundred twenty teachers were asked to read the vignette that described a fictitious child. Then the participants completed a prognostic judgment scale developed by Fox and Stinnett (1996). The results indicated expectations of students labeled with a disability were less positive in behavioral and academic dimensions but very positive for interpersonal areas. This research indicates merely applying the disability labels to a student causes lowering expectations of both classroom and other competences. Overall, students with disabilities succeed more in the classroom when teachers have high expectations and design engaging learning experiences (Carnahan, Musti-Rao, Bailey, 2009).

Inclusion

Inclusion is the practice of including children with special needs in general education classrooms in neighborhood schools. Students with physical and mental disabilities have been a target of discrimination for many years. These students have been placed in very restrictive environments, which may not have been the most appropriate placement for education. In the last twenty years, only children who were mildly impaired were served in general education classrooms but now students with a full range of special needs are being served in the general education classroom. The Education for All Handicapped Students Act, PL-91- 142 (1975) mandated that children with disabilities must have access to a free and appropriate public school education. All children with disabilities are to be educated to the "maximum extent" possible with children who do not have disabilities. This law established special education services. Student goals were to be specified in an Individualized Education Program (IEP). This program is developed by of a team of teachers, school psychologists, counselors, parents, advocates, administrators, and sometimes the students. Some students with severe disabilities need placement with trained special education personnel to meet their needs. For most other students with disabilities they would benefit from inclusion because of the opportunity to learn by observing and interaction with more advanced peers (Johnson, 1981). This act was amended in 1990 and was named the I*ndividual with Disabilities Education Act* (IDEA).

In 1997, IDEA mandated that states develop personal systems that prepare teachers to work with individuals with disabilities (IDEA, 1997). The latest IDEA legislation was signed into law December 3, 2004. This special education law serves

approximately 6.8 million students with disabilities and is known as the Individual with Disabilities Education Act (IDEA). Before IDEA, many students were denied access to education. In 1970, only one in five students with disabilities were educated in schools (ed.gov, 2008). While legislation can enforce provisions of educational opportunities for students with disabilities, it is complicated to implement attitudes and acceptance (Alghazo & Gaad, 2004).

In addition to IDEA, there is *No Child Left Behind.* This is federal legislation that established national strategies to achieve the goal of all students achieving (No Child Left Behind Act of 2001 [NCLB]) has facilitated the need to create standards of accountability that emphasize teacher efficacy as central to process of improving students achievement. Students with disabilities are gaining more rights and opportunities in everyday life and in the classroom, which will help students grow and succeed now in the educational process and later in life.

Teacher's Attitudes Toward Inclusion

There have been several studies focusing on teacher's thoughts and attitudes on inclusion. Scruggs and Mastropieri (1996) found that teachers were positive about inclusion if there were support teams available during the process. Furthermore teachers were influenced by impairment of the students. Weisel and Dror (2006) studied teachers' attitude toward inclusion of students with special needs. Results indicated that teachers who attend special education training in five years prior to participation in the study demonstrated more positive attitudes toward inclusion than no training. McGregor and Campbell (2001) found teachers with Autism training were more positive about the inclusion of students with Autism Spectrum Disorders in their classrooms.

Smith (2000) discussed how positive attitudes towards inclusion encourage supportive integration practices and negative attitudes tend to produce low achievement prospects and undesirable behavior in students with disabilities. If teachers' negative attitudes are not addressed from the beginning, progress is unlikely to be made for support of inclusion (Forlin et al., 2009). Carroll, Forlin, and Jobling (2003) indicated pre-service teachers do not have confidence about their capabilities and have negative attitudes toward inclusion. Loreman, Forlin, and Sharma (2007) found evidence that exposure to information on disability studies during the end of teacher training programs significantly improved attitudes towards inclusion. While Snyder (1999) found the majority of teachers surveyed had significant negative feelings about inclusion and reported that policy makers were out of touch with realistic classrooms.

Schumm and Vaughn (1995) reviewed 18 studies conducted over five years to examine what makes inclusion successful for students with learning disabilities in inclusive classrooms. Results indicated teachers felt lack of preparation to work with students with disabilities and they had little opportunity to consult with special education teachers. Overall, the literature demonstrates attitudes toward inclusion can be influenced by providing teachers and interns with skills stressing and modeling positive attitudes toward inclusion.

Teacher Attitudes Towards Disabilities

There is a substantial amount of research on the attitudes towards students with disabilities (D'Alonzo, Giordano, & Cross, 1996). Many studies indicate a large quantity of teachers hold negative attitudes toward students with labels and their integration into general education classrooms. Kagen & Tippins, (1991) indicated teachers develop

attitudes toward students before they have even met them. Center and Ward (1987) found teacher's attitudes toward students with disabilities reflected how little confidence they have in their own skills of working with these students. Teachers' attitudes toward students are affected by information levels, knowledge attainment, specific skill acquisition, contact, and experience with special need students (Larrive, 1981).

Larrivee (1981) investigated whether in-service training affected the attitudes of teachers. Teachers were placed in one of three random sample groups. The three groups were a control, a monthly in-service training, and intensive training over a year. Results indicated the intensive training group had significantly more positive attitudes than the other two groups. This suggests the more training that a teacher has the more positive attitudes they show towards students with disabilities. Li (1985) examined teachers' attitudes towards students with emotionally disturbed behavior. They were asked to read four vignettes describing emotional and/or behavioral problems, and then respond to attitude questions. These vignettes were provided at the beginning of the term and the end of the term. Results indicated the lecture course was an effective way of modifying the unfavorable attitudes towards children with special needs. Tait and Purdie (2000) found the exact opposite when examining 1,626 Australian university students on their attitudes toward students with a disability. Questionnaires measuring attitudes were given at the beginning of the year and the end of the year. Results indicated students were unable to change their attitudes by the end of the year. This may indicate their training was not as intensive or students needed more than a year of training.

Attitudes of teachers are key factors influencing success of inclusion in general education classes. Eichinger, Rizzo, and Sirotnik (1991) conducted a study on changing

teachers negative attitudes towards students with disabilities. They found that academic preparation and pre-service and in-service training for teachers improved educator attitudes and made a positive effective learning environment. This led to successful inclusion of students with disabilities. Wilczenski (1991) found several ways to elicit positive attitudes such as providing information about disabilities, providing information about persons with disabilities, and providing situations for vicarious experiences related to having a disability.

Ashburner, Ziviani, and Rodger (2010) compared teachers' perceptions of students with Autism Spectrum Disorders (ASD) to their perceptions of typically developing student with regard to capacity to perform academically and regulate emotions and behavior in the classroom. Results indicated 54% of students with ASD were scored below level academically compared to 8% of non-disabled students. Cook, Tankersley, Cook, and Landrum (2000) investigated 70 teachers' attitudes toward students with disabilities included in the class. Teachers were asked to nominate any three students who prompted concerns in the categories of attachment, indifference, and rejection. Students with disabilities were significantly overrepresented in the categories of concern and rejection. The more experience the teachers had the less students with disabilities were nominated.

Weisel and Tur-Kaspa (2002) examined the effect of labels on teachers' attitudes toward low-achieving students. Seventy-two high school teachers participated and half of the teachers had contact with low-achieving students who were attending special classes while the other half had no contact with these students. Teachers were given attitude questionnaires related to a hypothetical low-achieving student who attended special

classes. After three months, they were given the same questionnaire but the reference was to a hypothetical low-achieving student who attended regular classes. The results revealed some teachers who do not work in special education view at students with special needs and have negative attitudes towards the special education student being in their class. Variables that may affect the teachers' attitude are "students characteristics (type of disability), teacher characteristics (personality), as well as characteristics of the social and educational environment in which student-teacher interactions take place" (p. 2).

Autism Spectrum Disorders Symptomology and Facts

Pervasive Development Disorder (PDD) is an umbrella term that includes Autism spectrum disorders (ASD). Students with PDD share some common characteristics (See Table 1, Nicol, 2008). These students typically have rigid adherence to routines and response over-selectivity and over-generalization (Smith et al., 1995). Autism is the most commonly diagnosed PDD. In 1911, Bleuler coined the term Autism to describe individuals with schizophrenia who had a loss of contact with reality. Now Autism is believed to be a brain-based developmental disability that affects communication and social interaction, adversely affects education performance, and is noticeable in the first three years of life. This disorder influences how students learn and function in academic and social settings (Carnahan, Musti-Rao, & Bailey, 2009). Obviously because Autism is a PDD the label implies a stable internal and uncontrollable condition. This could lead to predictions about attributions made about children with this label.

The prevalence of Autism has increased 10 to 17 percent annually. In 1982, a person had Autism in five out of every 10,000 births (Gilliam and Coleman, 1982). Now

Autism is diagnosed in one out of every 110 children and over 1.5 million people have Autism in the United States. Occasionally, a family may have multiple children with Autism spectrum disorder; however, this phenomenon is rare. Less than 3% of the siblings of children identified with ASD also have the disorder (Bolton et al., 1994). Autism is found more in males than females and in the US one out of every 70 boys born is diagnosed with Autism. Although males are diagnosed more, girls are more likely to have more severe cognitive impairments (Center for Disease Control, 2010).

Children with Autism display limited skills to coordinate attention between partners with respect to objects, so that both have an awareness of the same thing at the same time. This skill is needed to develop language. For example, babies at six months of age usually coordinate attention with parents using gestures. Symptoms of Autism are lack of development of skills, regression, or loss of skills. These symptoms include no babbling, no back and forth gestures, such as pointing, showing, reaching, waving by 12 months, no two-word meaningful phrases (without imitating or repeating) by 24 months, and any loss of speech or babbling or social skills at any age. Core symptoms are poor eye contract, lining up toys or objects, not a word spoken by 16 months, not engaging in pretend play, and deficits in attachment relationships. Children with Autism also have language and communication difficulties. Eighty-five percent of children with Autism who develop speech show immediate or delayed echolalia. Children with low functioning Autism often develop repetitive behaviors and interest (Waltz, 2002). Volkmar, Cohen, and Paul (1986) studied repetitive behaviors of 50 children with Autism and results indicated the children's repetitive behaviors were 65 % rocking, 50% toe walking, 52%

arm, hand, or finger flapping and 50% whirling. Other related symptoms may include self-injurious behavior, excessive anxiety, sleeping, and eating disturbances.

The DSM-IV-TR includes diagnostic criteria for Autism in three symptom categories: social interaction impairment, impairment of communication, and repetitive and stereotyped patterns of behavior, interests, or activities. Social interaction impairments include lack of emotional or social reciprocity, failure to develop peer relationships, and impaired non-verbal behaviors such as eye-to-eye gaze and facial expressions. Examples of impairment of communication are delay or lack of spoken language, adequate speech but cannot carry on conversation with others, repetitive use of language, and lack of pretend or social imitative play. Repetitive patterns include engrossing preoccupation in one or more interests either abnormal in focus or intensity, inflexible routines, repetitive motor mannerisms or persistent preoccupation with parts of objects. Often there are comorbid disorders with Autism such as mental retardation, seizure disorders, depression, anxiety, and tic disorders.

A less severe Pervasive Developmental Disorder is Asperger's disorder. This disorder is characterized by the DSM-IV-TR as experiencing qualitative impairment in social interaction through nonverbal behaviors such as eye-to-eye gaze, facial expression, failure to develop peer relationships, lack of spontaneous seeking to share enjoyment or interests with other people, and lack of social or emotional reciprocity. In addition, restricted repetitive and stereotyped patterns of behavior, interests, and activities as manifested by at least one of the following: encompassing preoccupation with one or more restricted patterns, which are abnormal in intensity or focus, demands routine schedule, repetitive motor movements such as hand or finger flapping, and persistent

preoccupation with objects. The last criteria for Asperger's is disturbance causing impairment in social occupation or other functioning areas, no clinically significant delay in language, no significant cognitive development in self-help skills, adaptive behavior, and curiosity about the environment, and if the criteria is not met for another specific Pervasive Development Disorder. Pervasive Developmental Disorder not otherwise specified is when a child exhibits symptoms of Autism after the age of three but does not have impairments in all of the following three areas: deficit in social interaction, verbal and nonverbal communication skills, and stereotyped behaviors and interests.

Since Hans Asperger first described Asperger's in 1944, a wealth of literature has been produced (Barber, 1996). The lack of research on attributions about children with Asperger's is because it was not formally recognized in the United States until 1994 when the DSM-IV was released (APA, 1994). Sometimes children are misdiagnosed with Attention Deficit/Hyperactive Disorder or Obsessive Compulsive Disorder instead of Asperger's. These diagnoses may be rendered because there is a commonality of characteristics shared between ADHD and Asperger's and OCD and Asperger's. It may be difficult to decipher OCD from Asperger's because both display obsessive thinking patterns although the obsessions are quite different. Autistic obsessions frequently center on a topic of interest whereas obsessions in OCD focus on checking or washing (Bareon-Cohen &Wheelwright, 1999; Ghaziuddin, 2002). In addition, people with Asperger's do not experience distress with their obsessions as do people with OCD.

There is no cure for Autism or Asperger's disorder and these disorders continue across life span. Autism is likely caused by genetic, neurological symptoms, general medical conditions, and environmental causes but there is no definitive conclusion at this

point. There are usually some improvements in skills as age increases. Early intervention from birth to three has been shown to be effective in producing dramatic reduction in symptoms for people with Autism.

Despite an extraordinary increase in the study and scrutiny of students with Autism spectrum disorders, Autism-related disabilities remain an intriguing mystery to many professionals (Klin, Volkmar, and Sparrow, 2000). Recent research suggests that students benefit from being in the general education classroom. Between 2002 and 2005, the number of students with Autism placed in general education classroom for 80% of the day or more increased by 5% (NCES, 2007). Although students are being placed in general education settings, teachers often find it difficult to teach students with ASD because lack of training and background to understand the students characteristics, how to communicate with the students verbal skills, or academic procedures that have been found effective. Friedlander (2008) indicated teachers are often overwhelmed because lack of information and training about Autism Spectrum Disorders. Importance should be placed on training teachers' characteristics, communication skills, behavior management techniques, instructional methods, and arrangement of the educational environment (French & Cabell, 1993).

Comparison of Autism and Asperger's

Although Autism and Asperger's are both Pervasive Developmental Disorder they differ significantly. The symptoms of Autism include markedly abnormal social interaction and communication, and a restricted range of activities and interest, the same as Asperger's Syndrome (Attwood, 2008). Most people view these disorders as being on a continuum with Autism representing very low functioning and Asperger's very high

functioning. Children in the low end of the spectrum are diagnosed with Autistic Disorder because of the severity of symptoms (Atwood, 2008). The difference between Asperger's and Autism is not clear due to the difficulty of distinguishing between very high functioning Autism and Asperger's (Atwood, 2006). When looking at the DSM-IV-TR criteria in Table 2, there are a few major differences between Asperger's disorder and Autism. The first notable difference in the DSM-IV-TR criteria is the presence or absence of language delay. Many children with Asperger's are awkward in social situations and may appear to have no knowledge of social rules and proper mannerism. Children with Asperger's also have good sentence structure, high vocabulary, clear pronunciation, and correct syntax with an adult-like and sophisticated speaking style at a young age. Volkmar, Klin, Schultz, Rubin, and Bronen, (2000) examined students with Asperger's Disorder and found they have higher verbal IQs than those with Autism and greater social impairment than those with PDD NOS. In Asperger's Disorder, verbal skills are greater than nonverbal skills. In children with Autism, nonverbal skills are usually greater than verbal skills.

Though both Asperger's Disorder and Autism have strong genetic associations, in Asperger's Disorder, there is a significantly greater incidence of the disorder in first-degree relatives. Because of their excellent verbal skills, a patient with Asperger's Disorder may be overlooked and their poor social skills and performance on nonverbal tasks attributed to negativism. Increased risk for individuals with Asperger's Disorder to be labeled as "socially maladjusted" and placed in classes for children with conduct disorder and other behavioral problems. The last difference in DSM-IV criteria is the

onset of Asperger's is usually later than Autism. The average age of diagnosis for patients with Asperger's is 11 years, compared to 5.5 years in Autism.

Table 3 compares children with severe Autism, moderate Autism, mild Autism, and Asperger's disorder on symptoms such as socialization, communication, language, peer play, sensory, sensitivity, imaginative play, repetitive activities, reaction to change, motor skills, eye contact, earliest diagnosis, and intelligence (Nicol, 2008). For the socialization category children with severe Autism are indifferent or disinterested in others, while children with moderate impairment seek others for physical needs, children with mild impairments accept if approached by others while other children with Asperger's seek others for one-sided interaction. For communication, children with severe Autism use negative behavior to communicate like making noises or hitting, children with moderate Autism use gestures to communicate, children with mild Autism respond if approached by others, and children with Asperger's seek others for one-sided talking. Language skills for children with severe Autism is none or echolalia which is repeating what others say. Children with moderate and mild Autism have some poor language pragmatics such as odd communication, use of pronouns and words while children with Asperger's have very good language sometimes but also have repetitive, literal, excessive, and odd language skills. Next, peer play is nonexistent for children with severe and moderate Autism while children mild Autism can parallel play but poor interaction and children with Asperger's seek others for one-sided play.

Sensory symptoms found in children with severe Autism vary from little to severe, while children with moderate Autism have symptoms that vary. Children with Asperger's symptoms vary from many symptoms to none. For example, sensory items

can be overhead lighting, especially fluorescent lights that buss or flask; noise from fans or air conditioners; the clinking of dishes in the cafeteria down the hall or a line tapping against a metal flagpole outside can send them into a panic. For imaginative play, children with severe Autism have none, children with moderate Autism copy others play, and children with mild Autism and children with Asperger's have repetitive play and have little or limited imaginative play. Repetitive activities that occur in children with severe Autism are senseless body movements, some that may be self-injurious. Children with moderate Autism have some repeated body movements and touching objects while children with mild Autism have rituals with object or body movements. Children with Asperger's repetitive activities are talking, questioning over and over, and may have some body movements and rituals. Reaction to change has extreme reactions for children with severe Autism with them insisting on having daily activities happen the same way. Children with moderate Autism may react to change by repeated body moments and touching objects, while children with mild Autism may react by creating rituals with objects or making body movements. Children with Asperger's question the change, start talking about the change, and may have change some body movements and rituals. Motor skills for children with severe, mild, and moderate Autism vary from good to poor while children with Asperger's sometimes have clumsy and have poor coordination. Eye contact for children severe Autism is avoidant while children with moderate and mild Autism have avoidant inconsistent eye contact, and children with Asperger's usually have poor to inconsistent eye contact. The earliest diagnosis of children with severe, moderate, and mild Autism is around 16-30 months while diagnosis of children with Asperger's is usually diagnosed by preschool and later. Intelligence for children with severe and

moderate Autism is usually mental retardation level (75-85 percent of children). For children with mild Autism, intelligence varies and may be average while children with Asperger's are usually normal to superior.

Students with Asperger's are different from students with Autism because there are usually no significant delays in language cognition and self-help skills. Children with Asperger's perform better than children with Autism in adaptive behavior cognitive functions. Szatmari et al. (2000) compared the outcomes of groups of children with Asperger's Disorder and Autism over a period of two years to identify variables that may account for the differences. The children (all had IQs above the range of mental retardation) were given a battery of cognitive, language, and behavioral tests. Families were contacted 2 years later and many of the tests were re-administered. Results indicated children with Asperger's Disorder and children with Autism identified at 4-6 years of age demonstrated differences in social competence than autistic symptoms 2 years later (i.e. differences in nonverbal IQ, expressive language, and verbal reasoning were controlled). Variation in outcome seen in children with Autism and those with Asperger's Disorder are best explained by language fluency, measured by the oral vocabulary test. Large differences existed between the groups with Asperger's Disorder and Autism on oral vocabulary at both the beginning of the study and at follow-up. Once children with Autism develop a certain level of language fluency, they resemble children with Asperger's Disorder but at an earlier stage of development.

Other differences are the specific speech and language characteristics. Children with Asperger's are more likely to ask repetitive questions and discuss their interests than children with Autism (Eisenmajer et al., 1996). Students with Asperger's are usually seen

as “social but awkward” and want to have friends. Students diagnosed to be high-functioning Autism are also perceived as “social but awkward” but are less interested in having friends. Gadow, DeVincent, Pomeroy, and Azizian (2005) studied 284 children with ASD and found children on the higher end of the spectrum diagnosed with Asperger’s or PDD had more psychiatric symptoms such as anxiety, depression, and oppositional defiant disorder than did children with Autism. Students with Autism were found to be less stressed about frequent changes in their daily routine compared to students suffering from Asperger’s.

Teachers Knowledge of Disabilities

Fifty-seven percent of elementary students with disabilities are included in general education classes today (U.S. Department of Education, 2001). Many general education teachers are not prepared for working with students with disabilities. Research shows teachers have poor knowledge of other childhood disorders (Gilliam & Coleman, 1982; Herbert et al., 2004 Sciutto et al., 2000; Stone & Rosenbaum, 1988). In addition, if a teacher does not understand the disorder and have misconceptions that the parents caused the disorder they might blame the parents, which would cause additional stress and tension (Stone & Rosenbaum, 1988). Overall little research has been conducted on teacher’s knowledge of disabilities.

Yuker (1994) indicated that the prior information people have about disabilities influences their attitudes significantly. If people, including teachers have incorrect information this may lead to negative attitudes and unrealistic expectations toward students with disabilities. In addition, Yuker suggests people draw knowledge and

information from invalid information and focus on the person's disability rather than his or her abilities.

Teacher Knowledge Autism Spectrum Disorders

There has been little research on the knowledge and attitudes of teachers working with students with Autism. This is frightening considering the dramatic increase in the number of children with Autism spectrum disorder (Finke, McNaughton, & Grager, 2009).

Stone and Rosenbaum (1988) compared teacher and parent knowledge of Autism. Forty-seven teachers and 47 parents took The Autism Survey (Stone, 1987). This survey measured etiology, diagnosis, and specific features of Autism. Both parents and teachers had many misconceptions about cognitive, emotional, and developmental characteristics of children with Autism. Teachers had difficulty discriminating between Autism and childhood schizophrenia. In addition, teachers thought Autism was an affective disorder with emotional etiology. Teachers may benefit from training on nature of cognitive impairment of Autism. Mavropoulou and Padeliadu (2000) examined teachers' knowledge of Autism. Thirty-five general education teachers and 29 special education teachers answered a questionnaire. Results indicated teachers have the notion of the "autistic continuum" and the identity, but have little knowledge on the causes, and underestimate the capabilities of the child. Teachers were lacking appreciation of cognitive abilities and needs of children with high functioning Autism. This suggests teachers should be trained on specific characteristics, skills, and the emotional needs of the child. Helps, Newsom-Davis, and Callias (1999) investigated teachers' views of Autism and training needs. Seventy-two south London teachers completed a modified

version of The Stone Autism Questionnaire (1987). Results indicated the majority of the teachers lacked a basic theoretical understanding of Autism. Many of them harbored outdated beliefs about the disorder, while others simply remained confused and unsure. Teachers overestimated the cognitive abilities of children who had a diagnosis of Autism.

Lian et al. (2008) investigated preschool teachers on their knowledge, attitudes, and practices on childhood developmental and behavioral disorders in Singapore. They asked 503 preschool teachers to fill out questionnaires given on normal growth, development, childhood development, and behavior disorders. Results indicated 50% of teachers had low overall knowledge of the disorders and there was a huge educational deficit for Autism and ADHD. Eighty-four percent of the teachers believed Autism was curable with appropriate intervention, and 62% of teachers thought changing the students diet would help. For students diagnosed with LD, 80% of teachers thought letter reversal was diagnostic of dyslexia. The worst misconceptions were about ADHD with 78% thinking students can't sit still at a computer for an hour while 72% of teachers believed students could outgrow ADHD.

Fondacaro (2001) interviewed teachers, administrators, and school staff who served students with Asperger's disorder to determine which characteristic of the disorder affected school performance. Results indicated teachers' acceptance of students with Asperger's in the classroom was important to the student's success. Fondacaro (2001) expressed the importance for teacher having knowledge of Asperger's syndrome for the student's success.

Teachers student relationships can influence students with ASD negatively if the teacher has mixed feelings about the student. (Robertson, Chamberlain, & Kasari, 2003).

Teachers may assume that students with Asperger's are stubborn, socially inept, and not very intelligent. Overall, teachers' knowledge about Autism and Asperger's is very limited. Research suggests that schools should better prepare teachers on their knowledge of disorders so students can become successful in the classroom.

Education of Teachers on Disorders

The need for general education classroom teachers to understand the needs of diverse student groups have drastically increased in the last decade (D'Alonzo et al., 1996). There is a noted gap of teachers' knowledge and understanding of students' with special needs, and the complaints are common on lack of appropriate training of staff (Scuggs & Mastropeiri, 1996). With the inclusion of many students with disabilities, teachers are responsible for accommodating and treating them like any other non-disabled student. The way the general education teacher responds to students with disabilities may ultimately predict the success of these students in the general education classroom. Research has documented repeatedly that "teachers' views of students are a strong force in determining the nature of interaction between teachers and students and in turn students' achievements" (Schulz, Carpenter, & Turnbull, 1991, p.413).

Many studies propose teacher experience influences positive attitudes toward students with special needs, (Avramidis, Bayliss, & Burden, 2000; LeRoy & Simpson, 1996; Romi & Leyser, 2006), while others indicate the opposite (Harvey, 1985; Soodak, Podell & Lehman, 1998), and others have found teaching experience does not matter (Avramidis et al., 2000). This means it may be teacher training instead of experience that effects positive beliefs about special need learners (Bender, Vail, & Scott, 1995; Smith 1995). In 1976, Harasymiw and Horne found when teachers were educated about

disabilities and were in close contact with students with disabilities, their attitudes improved regarding mainstreaming and the manageability of special needs children.

Everhart (2009) examined anxiety of pre-service teachers who taught students with disabilities. Preliminary results suggested teachers in the field should receive more clinical teaching experiences that include students with disabilities. In addition, Cook (2002) stated teacher candidates did not feel adequately prepared to work in classrooms in which one or more students with disabilities were present. Overall, pre-service and present teachers are all lacking the knowledge and experience with students with disabilities. However, further research needs to be completed to see how this barrier can be reached.

Current Study

The current study examined the effects of labels and brief informational training about Autism Spectrum Disorders on teacher attributions and prognostic outlook for students with ASD. Past research has mostly focused on attributions made toward students with of LD. Because Autism Spectrum Disorders affect the student's achievement and behavior in the classroom it is important to study the knowledge teachers have about these disorders. In addition, these students are increasingly becoming included in the general education setting therefore; teachers are more likely to encounter these students in their classes. If teachers are lacking the knowledge of these disorders, they may make negative attributions about the student, and the student may have trouble being successful in the classroom.

There have been numerous research studies of attribution theory and in the context of students with disabilities. Teachers, parents, and peers all make attributions

about these students. The current study examined how teachers' knowledge of Autism Spectrum Disorders affected their attributions about a student. Research indicates that teachers have diverse insights and make different attributions about students' success or failure. When teachers view a student's behavior as internal and rigid, they frequently feel that the student is less likely to succeed in the future. In addition, if a teacher views a learning disability to be caused by internal characteristics which are uncontrollable, stable over time and across settings, they will be less likely to believe that the child's behavior will change and become more successful. Educating teachers about specific disorders may help teachers make less negative attribution assumptions when they encounter a child with that disorder.

Labeling continues to be a debatable topic in education with many believing that labels highlight a student's capacity, ability, strengths, and weaknesses. Labels may also provide insight to acceptable and appropriate treatments and interventions for the 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. Labels may evoke harmful stereotypes and bias that would not be present in the same child without the assigned label. Ultimately, the more knowledge teachers have about labels and treatment the more accepting they are (Katz, Cacciapaglia, Cabral, 2000). This means teachers should receive more training about labels and disorders.

Last, the relationship between teachers' knowledge, training, and attributions of students with Autism Spectrum Disorders are unclear. There has been one study on Autism and teachers' knowledge of the disorder. To this date there is no research studying the relationship between knowledge, attributions, and training of Autism Spectrum Disorders. As a result, this research study seeks to answer the following questions:

1. Are there differences in attributions of locus of control, stability, and controllability based on labels or training condition?
2. Are there differences in prognostic outlooks based on labels?
3. Are there differences in teachers' knowledge before and after knowledge training?
4. Does training affect teachers' attributions of locus of control, stability, and controllability on students labeled with Autism or Asperger's Disorder?
5. Does training affect teachers' prognostic outlook for children with ASD?

CHAPTER III

METHODS

Participants

Participants included elementary public school teachers who taught grades pre-kindergarten through fifth from public schools in the Midwest. Teachers were recruited at school wide meetings after school. One hundred and two participants participated in the study, although 59 met the criterion for inclusion in the study (i.e., these participants were general education teachers). The mean age for participants was 42 (10.39). Three males (5%) and 56 (95%) females participated. Eighty-one percent of teachers were Caucasian, 16% were Native-American, 2% were Hispanic, and 1% chose not to answer the question. Teachers taught the following grades: Pre-K (5%), Kindergarten (15%), first (18%), second (15%), third (16%), fourth (16%), and fifth (15%). Sixty-seven percent of the teachers did report receiving prior in-service training about Autism Spectrum Disorder (ASD) but only 51% believed they were knowledgeable about ASD. Twenty-five percent also reported having experience with ASD students in their classroom.

Materials

A vignette describing an elementary school aged boy with behavior problems and social problems was created. The vignette included one of three label conditions: Autism disorder, Asperger's disorder, no diagnosis. The problem and social behavior

descriptions indicated difficulties in the classroom. The problem description content of the vignette was held constant while diagnostic condition was varied. A label manipulation check was included for accuracy and understanding of labels.

Teacher Knowledge Scale. The Knowledge of Autism and Asperger's Questionnaire is a 24-item scale measuring teacher knowledge of Autism and Asperger's Disorders (12 questions each). The scale is derived from the Knowledge of Asperger's Teacher's Scale (KASP-TS) and Autism questions designed by the investigators. The teachers were required to respond true, false, or do not know to each item. The items assessed knowledge of symptomology, characteristics of the disorders, and other information about Autism and Asperger's disorders.

Attributional Ratings/ (locus of control of control, stability, and controllability) Items designed to reflect each of the three causal attribution dimensions were developed. Participants were asked to make attributions about the child in the vignette along three dimensions. The three attributional dimensions were locus of control, 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 personal control).

Prognostic Outlook (Fox & 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. Previous factor analysis of the items identified these three groups of items. All items were loaded on the other factors at <.30, except for the last item (overall adjustment), which was loaded on all factors. The 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 were summed and those values were used for all analysis.

Demographics Sheet. The demographics survey consists of nine short questions asking the participants to indicate their gender, age, number of years taught, and other demographic information. Participants were also asked whether they have a child with Autism or Asperger’s Disorder, have taught a child with those conditions, or had any training or experience with an Autism Spectrum Disorder.

Procedure

Teachers were asked for written informed consent to participate. Following consent teachers received two packets labeled with a number with a dot or no dot and letters A and B. The group with a number and no dot (treatment) stayed in that room and those with a number and dot (control) went to another room. The packets were filled with a Knowledge of Autism and Asperger’s Questionnaire, Prognostic Outlook, Attribution Ratings Scale, and vignette. Teachers first completed Knowledge of Autism and Asperger’s Questionnaire. Next, teachers read the vignette and for the label manipulation check indicated at the bottom of the page the diagnostic condition of the student in the vignette. Only the participants who correctly identified the label condition were included in further analyses (n = 59). Then teachers completed the Attributions Rating Scale and Prognostic Outlook. Once the teachers completed the forms, they watched an 11 minute PowerPoint DVD on either Learning Disabilities or Autism and Asperger’s information and characteristics. After this video teachers completed the Knowledge of Autism and Asperger’s Survey, read vignette, and completed Attribution Ratings and Prognostic

Outlook again. At the end, teachers received a debriefing thanking them for participation and information on how to contact the researchers with any questions they have about the study.

Experimental Design

The mixed factorial/split-plot design (2X3.2) was utilized for this study. The dependent variables were attribution (locus of control, stability, and controllability), prognostic outlook, and teacher's knowledge, while the independent variables were the diagnostic label (Autism, Asperger's, and No Label) and Training (Treatment or Control). The within subjects factor (repeated measures) was score (pre-treatment and post treatment).

Analyses

Data were analyzed using a mixed (i.e. split-plot) factorial multivariate analysis of variance (MANOVA). The three-factor factorial experiment consisted of one within subjects factor (pre/post score) and two between subject factors (training and label). The analyses were computed using the general linear model (GLM) through SPSS software. The data were interpreted for significant multivariate main effects, two-way interactions significant multivariate effects were followed with univariate tests, and when appropriate post hoc tests. Also the internal consistency of the Knowledge of Autism and Asperger's Survey was estimated (Cronbach's Alpha).

Internal Consistency

Cronbach's Alpha was calculated to estimate the internal consistency of the scores obtained for each item on the teacher's Knowledge of Autism and Asperger's Survey. Results indicated a score of .81 which means items have relatively high internal

consistency on the knowledge survey overall. An individual analysis was completed on all items. Results are reported in Tables 7 and 8.

CHAPTER IV

RESULTS

Question 1: Are there be differences in attribution of locus of control, controllability, and stability based on labels or training condition?

It was hypothesized there would be differences in locus of control, controllability, and stability for attribution ratings based on the label and/or training condition. A MANOVA was calculated to examine the dependent variables of locus of control, controllability, and stability. There were no significant multivariate main effects noted for label or the training conditions on the three attributions before treatment and no significant multivariate interaction Wilk's $\lambda = .96$, $F(6, 100) = .92$, $p > .05$. The means and standard deviations for locus of control reported for treatment condition: Autism 2.50 (.91), Asperger's 2.46 (.88), No Label 2.67 (.71) and for the control condition: Autism 3.00 (.94), Asperger's 2.70 (1.25), No Label 3.60 (.89). The means and standard deviations for controllability reported for treatment condition: Autism 3.58 (1.24), Asperger's 3.46 (.78), No Label 3.33 (1.00) and for the control condition: Autism 3.40 (1.07), Asperger's 2.90 (.57), No Label 3.20 (.84).

The means and standard deviations for stability reported for treatment condition: Autism 4.08 (.79), Asperger's 4.15 (.80), No Label 3.44 (.88) and for the control condition: Autism 4.10 (.99), Asperger's 4.10 (SD = .88), No Label 3.20 (1.48).

Question 2: Are there differences in prognostic outlook based on labels?

It was hypothesized there would be differences in prognostic outlook based on the label and treatment before treatment. An ANOVA was calculated to examine the dependent variable of prognostic outlook. There were no significant main effect noted for label or the training conditions on prognostic outlook before treatment and no significant interaction Wilk's $\lambda = .81$, $F(18, 80) = .94$, $p > .05$

Question 3: Are there be differences in teacher's knowledge before and after knowledge training?

It was hypothesized there would be differences in pre-knowledge scores and post-knowledge scores based on the label and treatment. A MANOVA was conducted to determine the effect of the three factors, label, treatment, and pre/post on teachers knowledge the dependent variable. Significant differences were found between two factors on the dependent variable, Wilk's $\lambda = .87$, $F(1, 87) = 13.51$, $p < .05$. Using Partial Eta Squared as the measure of effect size, the interaction between pre-post and treatment accounted for 12.8% of the total variability in the dependent variables. A Univariate ANOVA was calculated following the significant MANOVA Wilk's $\lambda = .889$, $F(1, 87) = 3.24$, $p < .05$. Results are presented in Table 5.

A post hoc analysis for teachers' knowledge and label pre/post test variables was conducted and simple main effects are reported in Table 6. Graphs and simple main effects of the estimated marginal means of the pre and post scores and teacher knowledge

scores were also examined. Teachers receiving the ASD training had significant growth from pre to post compared to those in the control group. The graphs of the estimated marginal means for each dependent measure are presented in Figures 1-2. The graphs illustrate estimated marginal means for knowledge the dependent variables for the pre and post condition of the treatment group. Cohen's d was also calculated to measure the effect size pre/post test scores. Results indicated a *Cohen's d = 0 .40,* a moderate effect size for pre scores based on treatment group and a *Cohen's d = .64*, a large effect size for post scores based on treatment group the variables had a moderate effect.

An analysis of percent correct for each item on the Autism and Asperger's knowledge Questionnaire was calculated before and after training. On average before treatment, teachers got 68% of the answers correct and after training on average answered 74% of the questions correct. Interpretation of the means of teachers' knowledge revealed before treatment the control group got 69% of the questions correct while the treatment group got 63% of the questions right. After training, the control group remained at 69% while the treatment group got 79% of the questions correct. Before training teachers scored below 80% on 62.5% of the questions although after training teachers did gain knowledge but still need improvements. Teachers scored below 80% on 54% of the questions after training. The results of the knowledge questionnaire are reported in Table 4.

Question 4: Does training affect teacher's attributions of locus of control, controllability, and stability on students labeled with Autism or Asperger's Disorder?

A MANOVA was calculated to examine the dependent variables of locus of control, controllability, and stability. There were no significant multivariate main effects

noted for label or the training conditions on the three attributions after treatment and no significant multivariate interaction Wilk's $\lambda = .91$, $F(6, 100) = .58$, $p < .05$.

Another analysis was completed to determine how many subjects got the label manipulation check incorrect. Results from the descriptive statistics for correct and incorrect diagnosis indicated 63% of the participants wrote the correct diagnosis. For the vignette labeled Autism 22 answered correct, six answered Asperger's, and two participants answered other diagnosis. For the vignette with the label Asperger's 23 answered correctly, four answered Autism, four left the answer blank, and two put other diagnosis. For the vignette with No Label 14 answered correctly, five put Autism, four put Asperger's, three left the answer blank, and four put other diagnosis. Results of the descriptive statistics are reported in Table 11.

Question 5: Does training affect teachers judgment of the students predicted prognostic outlook?

An ANOVA was conducted to determine the effect of the three factors, label, treatment, and pre/post on prognostic outlook the dependent variable. There were no significant main effects noted for label or training condition on the prognostic outlook after treatment and no significant interactions Wilk's $\lambda = .77$, $F(2,26) = 3.90$, $p < .05$.

CHAPTER V

CONCLUSION

The purpose of this study was to examine teachers' knowledge, beliefs, and attributions about students with Autism Spectrum Disorders (ASD). The first hypothesis examined teachers differences in attributions of locus of control, stability, and controllability based on label and training conditions. It was predicted that the attribution ratings would differ on the basis of label and treatment. Previous research suggests that labeling a student with a specific disorder may elicit attributions from teachers that affect teacher behavior (Allgozzine,Mercer, & Counterine, 1997: Georgiou, 1999; Graham & Weiner, 1986: Tollefson & Chen, 1988). Furthermore, Brady and Woolfson found teachers with more experience attributed students with LD failure in class to more external factors compared to less experienced teachers who attribute failure to internal factors.

The current questions hypothesized teachers who read about the child diagnosed with Autism or Asperger's would attribute the child's behavior to more internal personal characteristics when compared to teachers who read about a child who did not meet the diagnostic criteria for ASD. Results of this study found there were no major differences between the labels of Autism, Aspergers, and no label for all teachers when comparing for attribution ratings.

Hypothesis two was examined to determine if there were be differences on prognostic outlooks based on the label. It was predicted that the outlook would differ on

the basis of label and treatment. Previous research examined the effects of the diagnostic labels on individuals' beliefs about the student's likelihood of future success (Clark, 1997; Fox & Stinnett, 1996; Levin, Arluke, & Smith, 1982). The current hypothesis was teachers who read about the child diagnosed with Autism or Asperger's would predict poorer outcomes when compared to teachers who read about a child who did not meet the diagnostic criteria for ASD.

Results indicated there were no major differences between the labels for the prognostic outlook for all teachers. Teachers' reported the child was unlikely to develop adequate and appropriate peer and school staff relationships but somewhat likely to develop adequate and appropriate family relationships regardless of label. For obtaining high school diploma, obtaining, and holding on to a job for a reasonable length of time teachers rated the child somewhat likely to accomplish regardless of label. Teachers reported the child was somewhat likely to be a disruptive force in the classroom and have problems with law enforcement authorities in the future regardless of label. For the child to be successful in school, teachers rated the child as likely to need constant supervision. The teachers rated overall adjustment level for all labels to be poor to somewhat poor. Although there was no major difference within the labels, there were some interesting findings. Teachers believed that the child, with any label, would be able to hold a job and graduate but they also believed the child would be disruptive, in trouble with the law, would need constant supervision, and would have an overall poor adjustment level. Teachers also gave the same ratings for each question regardless of the label. This may indicate that teachers were not reading the questions and randomly assigning numbers to the questions.

Hypothesis three examined the difference in teachers' knowledge before and after knowledge training. It was predicted that teachers would gain knowledge about ASD after receiving treatment and participants in the control group would have little improvement. Past research has studied teachers' knowledge of ASD's but not before and after. Mavropolu and Padeliadu (2000) found teachers had little knowledge of causes and were lacking appreciation of cognitive abilities and needs of higher function autistic children. Furthermore, Lian et al. (2008) found 50% of teachers had low overall knowledge of the disorder and huge educational deficits.

The current hypothesis was all teachers would have poor knowledge of ASD's before training. After training, the teachers who were in the treatment group would gain a significant amount of knowledge compared to teachers in the control group. Results as predicted showed major improvements of teacher's scores in the treatment groups compared to teachers in the control groups. This means that teaching teachers about Autism Spectrum Disorders (ASD) was successful in showing improvement for teachers' knowledge of the disorders while teaching Learning Disorders in the control group was unsuccessful for showing improvement for ASD. On average before treatment teachers' had very poor knowledge about social skills and developmental knowledge in children with Autism and poor knowledge of language skills and common characteristics with children having Asperger's. Although knowledge increased after training teachers still had poor knowledge of social skills affecting both Autism and Asperger's diagnosis.

Hypotheses four and five examined the difference when comparing before and after training in attributions of locus of control, stability, controllability, and prognostic based on label. It was predicted that teachers attributions and outlook would change after

training compared to before training. Past research has not trained teachers on a disorder and then compared attributions and outlooks on the students before. The current hypothesized after training the teachers who read about the child diagnosed with Autism or Asperger's and was in the treatment group would change their outlook and attribution ratings about the child's behavior to more positive ratings when compared to teachers who were in the control group and/or read about a child who did not meet the diagnostic criteria for ASD. Results of the current study found no major findings. There were key differences for the attribution stability on the no label category. For stability, teachers rated the student with no label as having somewhat stable and long lasting difficulties before treatment and after treatment rated the label as having somewhat unstable and temporary difficulties after treatment. One interesting fact to be noted is Autism was reported more likely to develop an adequate and appropriate relationship with family than a child with Asperger's. This is interesting because children with Asperger's have better communication skills.

Although many variables were not significant, there may be important reasons why. Teachers may be unfamiliar with students with ASD. Training can help teachers become a little familiar but ultimately exposure is the best way to learn characteristics, which may lead to more realistic attributions and outlooks. Another factor for variables not being significant may have been teachers' were not familiar with attributions or may have not understood what attributions are. This could lead to inaccurate ratings or random guessing. Teachers also may not have understood the prognostic outlook directions when rating the label 1 to 10 on how likely to succeed. They may have just rated the child in

the middle to not look judgmental or because it is easy to rate in the middle without thinking about it.

Another reason became evident during analysis was many teachers did not get the manipulation check correct. This factor is very important because it may have affected the overall outcome of the study. Participants during the study may have read the vignette and overlooked the diagnosis that was made and decided to make their own. Others may have disagreed with the diagnosis given in the vignette and given their own diagnosis. The vignettes in the current study were designed such that all behavior was held constant. The child's behavior included all symptoms of mild to moderate Autism and Asperger's consistent with the DSM-IV-TR. This also may have contributed to teachers completing the manipulation check incorrect.

Teachers' also may have not understood the directions about rating attributions and prognostic outlook on the label given in their vignette. During data collection, there were many questions asked about the vignettes and whom teachers were rating on the attributions and prognostic outlook. In addition, there were many teachers with confused looks on their face or whispering among participants. This may attribute to the participants writing the wrong diagnoses on the vignette and there not being significant findings for the attribution ratings and prognostic outlook.

Past research has focused on teachers' attributions of student achievement, effort, ability, and performance. These studies often provided teachers with a written or video vignettes describing children with either high or low ability and high or low effort. Teacher attributions are assessed to determine their causal attributions for children's behavior. Research has not been conducted to investigate the direct effects of ASD labels,

pre/post attributions, and training on the disorders. Although findings in this study were mostly not significant, participants were consistent in their ratings of locus of control, stability, controllability, and prognostic outlook regardless of condition.

Implications

This study is unique in that it investigates areas of attribution theory, prognostic outlook, teacher's knowledge, and pre/post results which as not been research in the context of ASD. The findings of this study imply that teachers need more training on ASD's. Teachers have poor knowledge of ASD's specifically with social skills, language skills, characteristics, and that it was a developmental disorder. Before training teachers scored poorly although after training teachers did gain knowledge but still need improvements. This is frightening knowing that 31 teachers have had previous experience teaching children with ASD's. Once teachers are educated on ASD's they may realize that students with no label have more control over there behaviors in the classroom.

Another implication of the study is teachers may have read the vignette diagnosis wrong and made their own diagnosis, which may have differed from the original and correct diagnosis. This could be detrimental to the student. This could cause the teacher to misunderstand the needs of the student with a disorder, which could lead to disruptions or negative behaviors from the student with the disorder and could ultimately lead to the failure of the student succeeding in this environment (Eichinger, Rizo, &Sirotnik, 1991; Li et al., 1991, & Wilczenski, 1991).

The findings in the study improve our understanding of teachers' knowledge of ASD. Before the study teachers confirmed they had poor knowledge despite more than half indicating they had previous in-service training about ASD's. Although teachers

were not completely proficient after training the study gives hope that with more training teachers may better understand the disorder and students with ASD will be more successful in the classroom.

The findings of this study should alter the way we think about educating our teachers about various disorders. Although in this study previous in-service training in the teachers past have not increased their knowledge or confidence about the disorder this study may give indications on what needs to be emphasized most in future trainings.

Limitations and Future Directions

One of the limitations of this study is teachers had little experience with children with an ASD. This may have made it more difficult for teachers to make attributions and predict outlooks on the child. Previous studies have focused more on learning disabilities and ADHD which many teachers have experience with these populations. Time constraints may have also been a limitation. If the teachers had more time they may have focused on the vignette, attributions, and outlook questions more. In addition, more in depth training could have been provided.

Another limitation is 37% of teachers got the manipulation check incorrect, which limited results of the study. Thirty-four subjects did not identify or answer the correct label given. This may be a weakness in the research design. The symptoms may have not been clear or strong enough in the vignette and the diagnosis may have been difficult to pick out. Respondents who put the incorrect diagnosis gave several alternative diagnoses. One of the most frequent diagnoses written was Asperger's for Autism disorder and none or Autism for the Asperger's diagnosis. This could have resulted because of the vignettes being held constant across all labels. In addition, Autism and Asperger's have similar

characteristics. A possible solution to this problem may be as simple as bolding the diagnosis in the vignette. This may be important to emphasize in future training.

Future studies should focus on simplifying the study. For example, future studies should look at no label vs. Autism spectrum disorders in general and not make Autism and Asperger's separate studies. Another option future research could focus on no label vs. Asperger's since teachers seem to have more experience with this population than mild to moderate Autism. When looking at the dependent variables researchers should consider using just attribution ratings or just the prognostic outlook with the knowledge questionnaires instead of all three questionnaires. This may increase teachers' enthusiasm to complete all questionnaires and put forth their best effort. Future directions for training are explaining the vignettes, attributions or prognostic outlook questionnaire further. For the manipulation check teachers should be able to circle the label instead of writing the label. Also in the vignette the label should be bolded so it is easier to see. In addition to changes to the vignette, the description should include more pervasive symptoms to convince the reader. This could consist of going through the packet in front of the group before teachers open their own to better ensure understanding of directions and definitions. In addition, during training attributions could be defined and explained. This may minimize confusion and lead to more accurate ratings instead of random responding on the post test. Longer training sessions may be beneficial for teachers to understand the disorder better.

The population should also be considered when completing future research. First, more subjects may be beneficial to finding more statistical significance. In addition, a variety of school populations should be used. Schools used in this study were class 5A

and 6A schools located in urban areas in the same state with mostly female Caucasian teachers. It is important to consider issues of teacher knowledge, attitude, and beliefs about students with ASD's in diverse populations.

This study provoked many any questions. For example, do teachers understand what attributions or their prognostic outlooks are? In addition, do teachers normally make these judgments unconsciously and when asked to consciously think about their attributions teachers do not make the same mistake? These questions are interesting and further research should investigate these findings.

This research study and others can provide information to educators, school staff, and school psychologist that can be relayed to teachers about their knowledge and effects of their misconceptions and assumptions on their behavior. Inaccurate knowledge and beliefs about childhood disorders can lead to unfair treatment and educational placements that not least restrictive. Once these faulty beliefs are identified, they can be targeted for superior training on the apparent sources of child's capabilities and behavior. This could lead to potential training to address these misconceptions and behaviors in the general education classroom.

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Table 1. *Common Criteria for Pervasive Developmental Disorder*

Age of Onset		Social Interaction	Communication	Behavior
Autism	By Age of 3	Impairment of Social Interaction	Delay in spoken language; repetitive use of language, lack of play	Restricted, repetitive, behavior; repetitive motor activities
Rett's Disorder	Normal for 1 to 5 months; deceleration of head growth between 5 and 48 months	Short social spurts of interaction	severely impaired	Loss of purposeful hand movements; poorly coordinated movements.
Childhood Disintegrative Disorder	Normal until 2 years; loss of skills before Age 10	Impaired social interactions; and loss of social skills	Loss of expressive language acquired prior to manifestation of disorder	Loss of bodily functions control; restricted and repetitive behavior
Asperger's Syndrome	No significant abnormal behavior in childhood	Lack of social and/or emotional reciprocity	No delay in language acquisition	Idiosyncratic interest in one area
PDD Not Otherwise Specified	Pervasive impairment in social interaction and stereotyped behaviors when criteria are not met for any other disorders.			

Table 2.
Diagnostic Criteria from DSM-IV-TR (2000) American Psychiatric Association (Diagnostic and Statistical Manual of Mental Disorders)

Autism Disorder

A total of six (or more) items from A, B, and C, with at least two from A, and one each from B and C:

A. Qualitative impairment in social interaction, as manifested by at least two of the following:

1. marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

2. failure to develop peer relationships appropriate to developmental level

3. a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people

4. lack of social or emotional reciprocity

B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

1. encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

2. apparently inflexible adherence to specific, nonfunctional routines or rituals

3. stereotyped and repetitive motor mannerisms

4. persistent preoccupation with parts of objects

C. Qualitative impairments in communication as manifested by at least one of the following:

1. delay in, or total lack of, the development of spoken language

2. in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

3. stereotyped and repetitive use of language or idiosyncratic language

4. lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

Table 2

Diagnostic Criteria from DSM-IV-TR (2000) American Psychiatric Association (Diagnostic and Statistical Manual of Mental Disorders) continued

D. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play

E. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder

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Asperger's Disorder

A. Qualitative impairment in social interaction, as manifested by at least two of the following:

(1) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

(2) failure to develop peer relationships appropriate to developmental level

(3) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)

(4) Lack of social or emotional reciprocity

B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

(1) encompassing preoccupation with one or more stereo-typed and restricted patterns of interest that is abnormal either in intensity or focus

(2) apparently inflexible adherence to specific, nonfunctional routines or rituals

(3) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)

(4) persistent preoccupation with parts of objects

C. The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.

D. There is no clinically significant general delay in language (e.g., single words used by age 2 years, communicative phrase used by age 3 years)

Table 2.

Diagnostic Criteria from DSM-IV-TR (2000) American Psychiatric Association (Diagnostic and Statistical Manual of Mental Disorders) continued

E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than in social interaction), and curiosity about the environment in childhood

F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia

Table 3

Autism Compared to Asperger's Syndrome (Nicol, 2008)

Symptom	Severe Autism	Moderate Autism	Mild Autism	Asperger's Disorder
Socialization	Indifferent, disinterested in others	Seeks others for physical needs	Accepts if approached by others	Seeks others for one-sided interaction
Communication	Uses negative behavior to communicate	Uses gestures to communicate	Responds if approached by others	Seeks others for one-sided talking
Language	None or echolalia-repeats what others say	Echolalia and Poor some language pragmatics, odd to communicate use of pronouns and words		Very good, repetitive, literal, excessive, odd
Peer Play	No	No	Parallel play but poor interaction	Seeks others for one-sided play
Sensory	Varies, severe	Varies,	Varies, none to	Varies, none
Sensitivity	to none	significant to none	moderate or mild	to moderate or mild
Imaginative Play	None	Copies others	Repetitive play, little imaginative play	Repetitive play, limited imaginative play
Repetitive Activities	Senseless body movements, may be self-injurious	Repeated body movements and touching objects	Rituals with objects or body movements	Talking, questioning; may have some body movements, some rituals
Reaction to Change	Insists on sameness, extreme reaction	Repeated body movements and touching objects	Rituals with objects or body movements	Talking, questioning; may have some body movements, some rituals
Motor Skills	Varies, good to poor	Varies, good to poor	Varies, good to poor	Varies, clumsy, poor coordination
Eye Contact	Avoidant	Avoidant-inconsistent	Avoidant-inconsistent	Poor, inconsistent
Earliest Diagnosis	16-30 months	16-30 months	16-30 months	Preschool
Intelligence	Mental retardation In 75-85 percent	Mental retardation	varies-maybe average	Normal to superior

Table 4

Autism and Asperger's Knowledge Questionnaire Results

Test Item	Pre-test Percent Correct	Post-test Percent Correct
Total Items	67.61%	73.52%

Test Item	% Right	%Wrong	%DK	% Right	%Wrong	%DK
Q1	83.1	1.1	15.1	91.4	3.2	5.4
Q2	93.5	1.1	5.4	95.7	3.2	1.1
Q3	80.6	11.8	7.5	81.7	14.0	4.3
Q4	86.0	2.2	11.8	89.2	6.5	4.3
Q5	24.7	49.5	25.8	55.9	37.6	6.5
Q6	66.7	21.5	11.8	58.1	36.6	5.4
Q7	18.3	71.0	10.8	26.9	69.9	2.2
Q8	60.2	22.6	17.2	75.3	19.4	5.4
Q9	22.6	55.9	21.5	49.5	44.1	6.5
Q10	44.1	26.9	29.0	48.4	38.7	12.9
Q11	73.1	11.0	15.1	74.2	17.2	8.6
Q12	82.8	5.4	11.8	94.6	2.2	3.2
Q13	54.8	33.3	11.8	78.5	18.3	3.2
Q14	74.2	17.2	8.6	73.1	18.3	8.6
Q15	64.5	14.0	21.5	72.0	15.1	12.9
Q16	37.7	7.5	24.7	71.0	17.2	11.8
Q17	66.7	12.9	20.4	80.6	9.7	9.7
Q18	82.8	4.3	12.9	79.6	9.7	10.8
Q19	76.3	10.8	12.9	89.2	8.6	2.2
Q20	40.9	25.8	33.3	44.1	40.9	15.1
Q21	94.6	4.3	1.1	97.8	2.2	--
Q22	74.2	16.1	9.7	73.1	20.4	6.5
Q23	95.7	2.2	2.2	95.7	4.3	--
Q24	95.7	1.1	3.2	90.3	5.4	4.3

Table 5

Multivariate Analysis of Variance for Teacher's Knowledge

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Prepost	Wilk's Lambda	.87	13.51	1.00	87.00	.000	.134
Prepost*Treatment	Wilk's Lambda	.87	12.79	1.00	87.00	.001	.128
Prepost*Label	Wilk's Lambda	.98	.94	2.00	87.00	.396	.021
Prepost*Treatment*Label	Wilk's Lambda	1.00	.12	2.00	87.00	.887	.003

(N = 93)

Table 6

Simple Main Effects for Teacher's Knowledge

Type	Label	Mean	Std. Error	Sig.[a]	Lower Bound	Upper Bound
PreScore	Treatment	15.79	.662	.635	14.67	17.21
	Control	16.28	.773	.635	14.73	.17.83
	Treatment	18.65	.653	.000	17.34	19.96
PostScore	Control	16.24	.761	.000	14.72	17.77

Table 7

Reliability Statistics for Knowledge Survey

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.81	.82	24

Table 8

Item Total Statistics for Cronbach's Alpha for Knowledge Questions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
One	42.51	33.43	.33	.80
Two	41.77	35.59	.35	.80
Three	41.86	35.75	.14	.82
Four	41.72	35.16	.33	.80
Five	41.81	34.18	.24	.81
Six	41.91	34.23	.32	.80
Seven	41.89	33.47	.47	.79
Eight	42.25	32.75	.38	.80
Nine	41.83	33.34	.38	.80
Ten	41.97	32.20	.39	.80
Eleven	42.40	33.22	.34	.80
Twelve	41.75	34.49	.42	.80
Thirteen	42.25	32.93	.41	.80
Fourteen	41.90	34.74	.29	.80
Fifteen	42.25	31.47	.49	.79
Sixteen	41.65	33.43	.47	.79
Seventeen	41.74	34.11	.34	.80
Eighteen	42.52	31.95	.55	.79
Nineteen	41.80	35.38	.19	.81
Twenty	41.74	32.88	.36	.80
Twenty-one	41.85	35.91	.26	.80
Twenty-two	41.88	34.10	.39	.80
Twenty-three	41.82	35.98	.27	.80
Twenty-four	42.74	34.93	.37	.80

Table 9

Descriptive Statistics for Correct and Incorrect Diagnosis

	Correct	Incorrect
Participant	63%	37%

Descriptive Statistics for Labels Participants Gave

Label	Autism	Asperger's	No Label	Blank	Other
Autism	22*	6	--	--	2
Asperger's	4	23*	--	4	2
No Label	5	4	14*	3	4

*correct diagnosis

Figure 1

Estimated Marginal Means of Teacher Knowledge Before Treatment

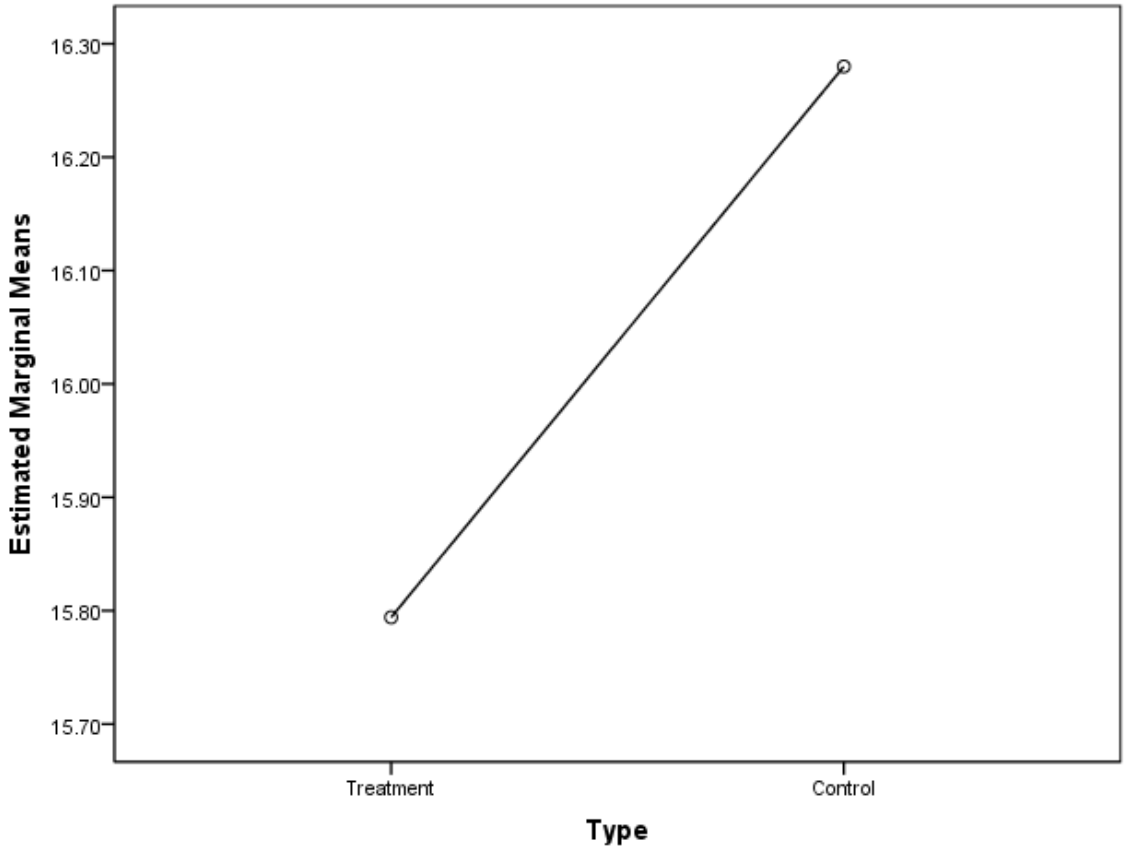
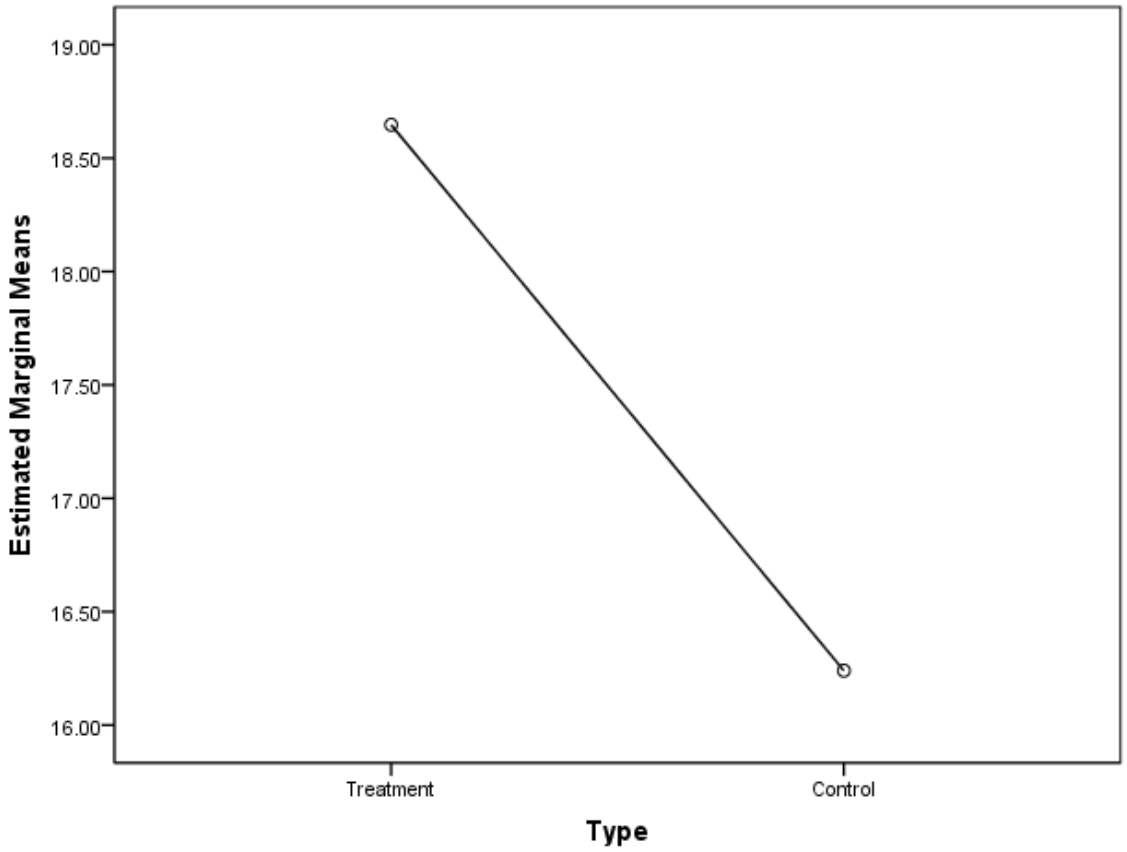


Figure 2

Estimated Marginal Meansof Teacher Knowledge After Treatment



APPPENDICES

Vignettes

1. Label

Brian is considered to have poor social skills, he is argumentive, and very disruptive. He has been evaluated by a School Psychologist and diagnosed with Autism Disorder. At school, his classroom teacher has noticed Brian spends a lot of time on his assignments. He gets up out of his seat to talk to his teacher, talks aloud, or just stares at his paper. He often does not follow directions and writes about the topic he chooses. Brian sometimes becomes upset when the order of classroom activities change. Brian often recieves help on his assignment from the teacher and his peers. His teacher is concerned since he rarely finishes assignments. His inability to follow through on instructions has begun to annoy and frustrate Brian and his teacher.

Further, his peer relationships have been negatively impacted by his poor social skills. Brian has difficulty during group or play activities due to his one-sided talking and his lack of other knowledge. When completing assignments with others, Brian often talks about his rock collection or says nothing at all. During playtime he tends to ignore everyone. Because Brian has difficulty interacting with others and staying on task, Brian's classmates often do not want to work or play with him. As a result of Brian's poor social skills, Brian is not well liked by other peers.

2. Label

Brian is considered to have poor social skills, he is argumentive, and very disruptive. He has been evaluated by a School Psychologist and diagnosed with Asperger's Disorder. At school, his classroom teacher has noticed Brian spends a lot of time on his assignments. He gets up out of his seat to talk to his teacher, talks aloud, or just stares at his paper. He often does not follow directions and writes about the topic he chooses. Brian sometimes becomes upset when the order of classroom activities change. Brian often recieves help on his assignment from the teacher and his peers. His teacher is concerned since he rarely finishes assignments. His inability to follow through on instructions has begun to annoy and frustrate Brian and his teacher.

Further, his peer relationships have been negatively impacted by his poor social skills. Brian has difficulty during group or play activities due to his one-sided talking and his

lack of other knowledge. When completing assignments with others, Brian often talks about his rock collection or says nothing at all. During playtime he tends to ignore everyone. Because Brian has difficulty interacting with others and staying on task, Brian's classmates often do not want to work or play with him. As a result of Brian's poor social skills, Brian is not well liked by other peers.

3. No Label

Brian is considered to have poor social skills, he is argumentive, and very disruptive. He has been evaluated by a School Psychologist; however he did not qualify as having Autism or Asperger's Disorder. At school, his classroom teacher has noticed Brian spends a lot of time on his assignments. He gets up out of his seat to talk to his teacher, talks aloud, or just stares at his paper. He often does not follow directions and writes about the topic he chooses. Brian sometimes becomes upset when the order of classroom activities change. Brian often recieves help on his assignment from the teacher and his peers. His teacher is concerned since he rarely finishes assignments. His inability to follow through on instructions has begun to annoy and frustrate Brian and his teacher.

Further, his peer relationships have been negatively impacted by his poor social skills. Brian has difficulty during group or play activities due to his one-sided talking and his lack of other knowledge. When completing assignments with others, Brian often talks about his rock collection or says nothing at all. During playtime he tends to ignore everyone. Because Brian has difficulty interacting with others and staying on task, Brian's classmates often do not want to work or play with him. As a result of Brian's poor social skills, Brian is not well liked by other peers.

Autism and Aspeger's Knowledge Survey

Please Circle the following after each question: T= true, F= False, DK = Don't Know

1. More boys are diagnosed with Autism than girls.	T	F	DK
2. Children with Asperger's Disorder often do not follow directions because they want to be difficult.	T	F	DK
3. Children with Autism never make eye contact.	T	F	DK
4. Asperger's Disorder can be cured.	T	F	DK
5. Children must exhibit impaired social interaction to receive a diagnosis of Autism.	T	F	DK
6. Children with Asperger's usually are not interested in friendships.	T	F	DK
7. Autistic children do not show social attachments even to parents.	T	F	DK
8. Children with Asperger's disorder are typically not delayed cognitively.	T	F	DK
9. Autism is a developmental disorder.	T	F	DK
10. The obsessive interests commonly seen in Asperger's syndrome are unwanted and distressing to a child with Asperger's.	T	F	DK
11. A student with Asperger's is able to learn some social skills from other students' social behaviors.	T	F	DK
12. With proper treatment, most autisic children eventually outgrow Autism.	T	F	DK
13. Children with Autism do not have many friends.	T	F	DK
14. Individualized Education Plans (IEP) that are similar are most beneficial for all children with Asperger's Disorder.	T	F	DK
15. Students with Autism often are diagnosed with other disorders.	T	F	DK
16. A student must have a signficant delay in language development to meet the criteria for Asperger's Disorder.	T	F	DK
17. If a child has Autism their sibling is likely to be diagnosed with Autism too.	T	F	DK
18. Areas of interest for children with Asperger's Disorder can change over time and be replaced with other areas of interests.	T	F	DK
19. Children with Autism Disorder have to eat special food.	T	F	DK

20. According to research, a student with Asperger's may benefit from being exempt from working in groups.	T	F	DK
21. All children with Autism cannot be successful in the classroom.	T	F	DK
22. Children with Asperger's Disorder usually have no regard for rules.	T	F	DK
23. Children with Autism have no verbal abilities.	T	F	DK
24. Children with Asperger's require additional preparation for changes in classroom routine.	T	F	DK

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 Brian'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 Brian'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 Brian's behavior is within his control, or outside of his control?
    1- Completely within Brian's control
    2- Almost completely within Brian's control
    3- Somewhat within Brian's control
    4- Somewhat outside his control
    5- Almost completely outside his control
    6- Completely outside his control

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 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 adjustments to "10" extremely well
9. What is the child's overall level of adjustment?

Demographics

Gender:
___ Male ___ Female

Enter your age: ____

Race/Ethnicity:
____Caucasian
____ African American
____ Hispanic
____ Native-American
____ Asian-America
____ 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?
____ Pre-K
____ Kindergarten
____ 1st grade
____ 2nd grade
____ 3rd grade
____ 4th grade
____ 5th grade

Do you have a child who has been diagnosed with an Autism Spectrum Disorder?
____ Yes ____ No

Have you taught a child on the Autism Spectrum?
____ Yes ____ No

How much training have you received on Autism Spectrum Disorders?
____ None
____ In-service training
____ Class
(Explain how much training and topic below)
_____
_____
_____

Do you feel knowledgeable about Autism Spectrum Disorders?
___ Yes ___ No

Asperger's and Autism Teaching Material

What is Autism?

Autism is a general term used to describe a group of complex developmental brain disorders known as Pervasive Developmental Disorders (PDD). The other pervasive developmental disorders are PDD-NOS (Pervasive Developmental Disorder – Not Otherwise Specified), Asperger's Syndrome, Rett Syndrome and Childhood Disintegrative Disorder. Many parents and professionals refer to this group as Autism Spectrum Disorders

Autism

A. Qualitative impairment in social interaction, as manifested by at least two of the following:

1. marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
2. failure to develop peer relationships appropriate to developmental level
3. a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people
4. lack of social or emotional reciprocity

B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

1. encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
2. apparently inflexible adherence to specific, nonfunctional routines or rituals
3. stereotyped and repetitive motor mannerisms

4. persistent preoccupation with parts of objects

C. Qualitative impairments in communication as manifested by at least one of the following:

1. delay in, or total lack of, the development of spoken language

2. in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

3. stereotyped and repetitive use of language or idiosyncratic language

4. lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

D. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play

Asperger's

A. Qualitative impairment in social interaction, as manifested by at least two of the following:

(1) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

(2) failure to develop peer relationships appropriate to developmental level

(3) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)

(4) Lack of social or emotional reciprocity

B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

(1) encompassing preoccupation with one or more stereo-typed and restricted patterns of interest that is abnormal either in intensity or focus

(2) apparently inflexible adherence to specific, nonfunctional routines or rituals

(3) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)

(4) persistent preoccupation with parts of objects

C. The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.

D. There is no clinically significant general delay in language (e.g., single words used by age 2 years, communicative phrase used by age 3 years)

E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than in social interaction), and curiosity about the environment in childhood

F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia

Examples of Communication

- language develops slowly
- may have gifted language skills (Asperger's Syndrome)
- words are used without attaching meaning to them
- may communicate with gestures instead of words

- short attention span
- brain processes auditory information more slowly
- no inherent benefit to social/reciprocal communication

Examples of Social Interaction

- may spend time alone rather than with others
- may show little interest in making friends
- less responsive to social cues, such as facial expression
- difficulty initiating play or joining activities with peers

Examples of Sensory Impairment

- unusual reactions to physical sensations such as over-sensitivity to touch or under sensitivity to pain
- responses to sights, sounds, touch, smells and tastes may be affected to lesser or greater degrees
- need for sensory input, such as swinging or deep pressure touch

Examples of Play

- does not imitate the actions of others
- does not usually initiate pretend games
- lack of spontaneous or imaginative play

Examples of Behaviors

- May have tantrums for no apparent reason
- May be overactive or passive
- May perseverate on a single item, idea, phrase, word

Important

- Children with Autism and Asperger's are not all alike. They may display most, some, a few (but generally not all) of the following characteristics to a varying degree

Common Characteristics

- Difficulty in mixing with other children
- Insistence on sameness: resists changes in routine
- Inappropriate laughing and giggling
- No real fear of dangers
- Lack of eye contact
- Unresponsive to normal teaching methods

Common Characteristics

- Sustained in odd play
- Apparent insensitivity to pain
- Echolalia (repeating words or phrases)
- Prefers to be alone; aloof manner
- May not want cuddling
- Spins objects

Common Characteristics

- Noticeable physical over activity or extreme under activity.
- Tantrums (displays extreme distress for no apparent reason).
- Not responsive to verbal cues; acts as if deaf.
- Inappropriate attachment to objects.
- Uneven gross/fine motor skills (may not want to kick the ball).
- Difficulty in expressing needs; uses gestures or pointing instead of words.

Miscellaneous

- Having a classroom with students with Autism and Asperger's requires additional preparation for changes in classroom routine.
- Children with Autism and Asperger's cannot be cured
- Occasionally, a family may have multiple children with Autism spectrum disorder; however, this phenomenon is rare. Less than 3% of the siblings of children identified with ASD also have the disorder (Bolton et al., 1994)
- Autism is found more in males than females and in the US one out of every 70 boys born is diagnosed with Autism.
- Although males are diagnosed more, girls are more likely to have more severe cognitive impairments (Center for Disease Control, 2010).

Table 3

Autism Compared to Asperger's Syndrome (Nicol, 2008)

Symptom	Severe Autism	Moderate Autism	Mild Autism	Asperger's Disorder
Socialization	Indifferent, disinterested in others	Seeks others for physical needs	Accepts if approached by others	Seeks others for one-sided interaction
Communication	Uses negative behavior to communicate	Uses gestures to communicate	Responds if approached by others	Seeks others for one-sided talking
Language	None or echolalia-repeats what others say	Echolalia and Poor some language pragmatics, odd to communicate use of pronouns and words		Very good, repetitive, literal, excessive, odd
Peer Play	No	No	Parallel play but poor interaction	Seeks others for one-sided play
Sensory Sensitivity	Varies, severe to none	Varies, significant to none	Varies, none to moderate or mild	Varies, none to moderate or mild
Imaginative Play	None	Copies others	Repetitive play, little imaginative play	Repetitive play, limited imaginative play
Repetitive Activities	Senseless body movements, may be self-injurious	Repeated body movements and touching objects	Rituals with objects or body movements	Talking, questioning; may have some body movements, some rituals
Reaction to Change	Insists on sameness, extreme reaction	Repeated body movements and touching objects	Rituals with objects or body movements	Talking, questioning; may have some body movements, some rituals
Motor Skills	Varies, good to poor	Varies, good to poor	Varies, good to poor	Varies, clumsy, poor coordination
Eye Contact	Avoidant	Avoidant-inconsistent	Avoidant-inconsistent	Poor, inconsistent
Earliest Diagnosis	16-30 months	16-30 months	16-30 months	Preschool
Intelligence	Mental retardation In 75-85 percent	Mental retardation	varies-may be average	Normal to superior

Learning Disability Knowledge Material

Learning Disabilities

- In 1994, the U.S. Department of Education stated LD was the largest group of children with disabilities in special education programs with over 4.3 million identified as having a specific learning disability.
- LD is defined as: a general term that describes specific kinds of learning problems. A learning disability can cause a person to have trouble learning and using certain skills. The skills most often affected are: reading, writing, listening, speaking, reasoning, and completing math.

LD Definition

- Learning disabilities (LD) vary from person to person. One person with LD may not have the same kind of learning problems as another person with LD. For example a person may have trouble with reading and writing. Another person with LD may have problems with understanding math. Still another person may have trouble in each of these areas, as well as with understanding what people are saying.
- Researchers think that learning disabilities are caused by differences in how a person's brain works and how it processes information. Children with learning disabilities are not "dumb" or "lazy." In fact, they usually have average or above average intelligence. Their brains just process information differently

IDEA Definition

- *Our nation's special education law, the Individuals with Disabilities Education Act, defines a specific learning disability as . . .*
    - ". . . a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia."
    - However, learning disabilities do *not* include, "…learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage." 34 *Code of Federal Regulations* §300.8(c)(10)

LD

- There is no "cure" for learning disabilities. They are life-long. However, children with LD can be high achievers and can be taught ways to get around the learning disability. With the right help, children with LD can and do learn successfully.

- Types of Learning Disabilities
    - forms of reading disability: word recognition, comprehension, and fluency.
    - forms math which included: mathematics disorder and reading mathematics disorder,
    - 2 forms of written expression disabilities: handwriting, and spelling.
- A person may have a disorder in more than one domain area. Eighty percent of special education kids have trouble reading (Lerner, 1989). This means that four percent of all school age children will have a reading disorder.

LD in Reading

Reading disorders are defined by the DSM-IV-TR as standardized test are below norm and if it significantly interferes with academic achievement. Dyslexia is the most common form of LD. Lyon, (1995) and Shaywitz (1996) used advances in research to define dyslexia as the following definition:

LD in Reading

…It is specific language-based disorder intrinsic to the person characterized by difficulties in the development of accurate and fluent single word decoding skills, usually associated with insufficient phonological processing and rapid naming abilities. These difficulties in single word decoding are often unexpected in relation to age and other cognitive generalized developmental disability or sensory impairment. Dyslexia is manifest by variable difficulty with different forms of language, often including in addition to problems reading, a conspicuous problem with acquiring proficiency in writing and spelling. Reading comprehension problems are common, reflection word decoding and fluency problems (p541).

Math LD

- Math learning disabilities are defined as standardized tests are below norm and if it significantly interferes with daily living require math ability.
- 1% of school age children are diagnosed with a math disability.
- LD in math is defined by six subtypes, verbal dyscalculia, practognostic dyscalculia, lexical dyscalculia, graphical dyscalculia, ideognostical dyscalculia, and operational dyscalculia. These subtypes consist of deficits in mathematical amounts, numbers, mathematically manipulating objects, reading mathematic

symbols, writing mathematical symbols, understanding math concepts on the calculator, and performing computational operations.

Writing LD

Written expression learning disabilities are defined as standardized tests are below norm and if it significantly interferes with composition of written expression. Less than one percent of school age children suffer from written expression.

Characteristics of Learning Disabilities

- Reading and spelling problems.
- Weak oral language
- Inability to tell a joke
- Inability to understand cause and effect.
- Unable to respond to explanations given in language i.e., they learn better when shown.

Characteristics of Learning Disabilities

- Weak reading comprehension - inability to recall what they have read
- Need to re-ask questions that have already been answered
- Inability to abstract - missing the point and taking information literally
- Weak expressive language including: inability to express themselves; lack the ability to gesture; may be verbal but their verbalizations are scattered and difficult to follow (ramble on without getting to the point)

Characteristics of Learning Disabilities

- Weak writing skills - poor organization, unfocused, sees only parts and not the whole
- Messy handwriting/avoidance of written tasks
- Delayed speech or language
- Poor organizational skills in daily living
- Loses attention quickly in conversations or lectures
- Poor concentration - easily distracted or fatigued

Characteristics of Learning Disabilities

- Impulsivity
- Weak auditory memory and poor at following directions
- Difficulty remembering multiplication tables or other rote memory tasks
- Difficulties with mental arithmetic
- Poor self-esteem/lack of confidence
- Depression/mood changes
- Weak sense of time - immediate and historic

Characteristics of Learning Disabilities

- Weak sense of direction
- Confusion with right and left
- Poor at judging size and distance
- Behavioral problems - acting out/withdrawing
- Poor sequencing ability - difficulty ordering information, not knowing where to start solving a problem and/or not knowing where, when or how to ask for help

Characteristics of Learning Disabilities

- Confusion when presented with multiple pieces of information
- Misinterprets actions or intentions of others
- Slow in processing information - slow reaction time, takes a long time reading, writing, talking, thinking
- Lack of changes in facial expression - does not show emotion
- Perseverates - repetitive, resists changes in routines

Characteristics of Learning Disabilities

- Poor coordination - gross and fine motor
- Poor peer relationships - difficulty relating in interpersonal relationships; has few friends; often in fights
- Difficulty making decisions

Oklahoma State University Institutional Review Board

Date:	Thursday, September 09, 2010
IRB Application No	ED1095
Proposal Title:	How Labeling and Teacher's Knowledge Affect Attributions Toward Students With Autism Spectrum Disorders
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 9/8/2011

Principal Investigator(s):

Janine Kesterson
120 S. Burdick Apt. D2
Stillwater, OK 74074

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.

[X] 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,

Shelia H. Kennison

Shelia Kennison, Chair
Institutional Review Board

VITA

Janine Sue Kesterson

Candidate for the Degree of

Doctor of Philosophy

Dissertation: THE EFFECTS OF LABELING AND TEACHER KNOWLEDGE OF AUTISM ON ATTRIBUTIONS MADE ABOUT STUDENTS WITH AUTISM SPECTRUM DISORDERS

Major Field: Educational Psychology with an option in School Psychology

Biographical:

Education:
Completed the requirement for the Doctor of Philosophy in Educational Psychology with an Option in School Psychology at Oklahoma State University, in July 2012.

Completed the requirements for the Master of Science Educational Psychology with an Option in School Psychometrics at Oklahoma State University, Stillwater, Oklahoma in December 2008.

Completed the requirement for the Bachelor of Science in Psychology at Henderson State University, Arkadelphia, Arkansas in December 2006.

Experience:
May Institute, Clinical Services
Predoctoral Intern, Providing applied behavior analysis for children and adolescents with traumatic brain injury, neurological disorders, Autism, and other developmental delay disorders.

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

Name: Janine Sue Kesterson Date of Degree: July, 2012

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: THE EFFECTS OF LABELING AND TEACHER KNOWLEDGE OF AUTISM ON ATTRIBUTIONS MADE ABOUT STUDENTS WITH AUTISM SPECTRUM DISORDERS

Pages in Study: 113

Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology with an Option in School Psychology

Scope and Method of Study:

This current study examined teachers' knowledge and beliefs about students with Autism Spectrum Disorders. The study sample consisted of 59 teachers (grades pre-k through fifth grade) in public schools in the Midwest. The present study sought to fill the gap in the literature, as there is a lack of research, which has examined teacher's knowledge of Autism Spectrum disorders and how it affects their attributions and outlook on the student.

Findings and Conclusions:

The current study findings supported three of the five research questions posed by the investigator. Results indicated that teacher's knowledge increased after receiving Autism Spectrum Disorders training compared to the control group. In addition, there were no significant changes in teachers' attributions and prognostic outlook after training. Results indicated that teachers' attribution and outlooks were similar regardless of label or training.

ADVISER'S APPROVAL: Dr. Terry Stinnett