The Effects of Peer Tutoring on Junior High General Education

Students' Attitudes Toward Students with Severe Disabilities


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A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Science


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March 2014

ABSTRACT


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The primary purpose of this study was to determine if and how the perceptions of general education students toward their peers with severe disabilities changes when they participate in a peer tutoring program. The study was conducted in a suburban/rural district in Utah and included 102 participants in treatment and control groups over three junior high schools. The data found mixed results. One of the three schools had a significant difference in the attitudes of the treatment group after being part of a peer tutoring program. The study shows that being part of a peer tutoring program can have a positive impact on the attitudes and perceptions of students in general education.

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DESCRIPTION OF THESIS STRUCTURE

This thesis, *The Effects of Peer Tutoring on Junior High General Education Students'
Attitudes Toward Students with Severe Disabilities*, is written in a hybrid format. The hybrid
format combines traditional thesis requirements with modern journal publication configuration.

The preliminary pages of the thesis fulfill qualifications for the university. The thesis is
presented in a journal article format, and complies with length and style requirements for
submitting research to educational journals.

The literature review is included in Appendix A. Consent forms are listed in Appendix B
and Appendix C includes the instruments used. Appendix D constitutes all tables and figures
referenced in the thesis.

**Introduction**

Disabilities are often described on a continuum from mild to severe. *Developmental*

*disability* is an umbrella term used in special education to describe the moderate to severe end of

the continuum. Developmental disability is a severe, chronic disability that is attributable to a

mental or physical impairment or combination of mental and physical impairments; is manifested

before the individual attains age 22; is likely to continue indefinitely; and results in substantial

functional limitations in three or more of the following areas of major life activity:

1. Self-care

2. Receptive and expressive language

3. Learning

4. Mobility

5. Self-direction

6. Capacity for independent living

7. Economic self-sufficiency; and

8. Reflects the individual's need for a combination and sequence of special,
   interdisciplinary, or generic services, individualized supports, or other forms of
   assistance that are of lifelong or extended duration and are individually planned and
   coordinated  (42 USC 15002 §102(8)).

Developmental disabilities affected about 15.1% of students served in special education

and 5% of total school enrollment in the 2009-2010 school year (U. S. Department of Education,

2011). These individuals are often identified early in life and frequently receive early

intervention special education services. Intellectual disability is the most common

developmental disability in the U. S., manifested by "significantly subaverage general

intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a student's educational performance" (Utah State Office of Education, 2007, p. 41). In public school settings, intellectual disabilities make up 7.4 % of children served by special education (U. S. Department of Education, 2011). Other developmental disabilities include emotional disturbance, other health impairment, multiple disabilities, autism, and traumatic brain injury (U .S. Department of Education, 2011).

**Attitudes and Perceptions About Individuals with Severe Disabilities**

Opportunities and achievement for people with disabilities have grown with the struggle for equity in education. The intent of the Individuals with Disabilities Education Improvement Act (IDEIA) is to provide equal educational opportunities for people with disabilities, a significant change from placement in institutions. These institutions existed for people "under 21 years of age who are feebleminded, idiotic, epileptic, or physically defective to such an extent as to prevent them from being educated in the common schools" (Hamilton & Haber, 1917, p. 240). Before the law, people with severe disabilities were seen as blights on society, and in some cases were treated like animals. For example, in 1915 the second such law in the nation was introduced in Washington to sterilize those who were deemed as feebleminded (Farber, 2008). In the early 20th century, sterilization was a way to eliminate defective genes and to prevent people who might become criminals from entering the world. People with disabilities were seen as defective, and their offspring posed a risk to society (Farber, 2008; Lombardo, 2010).

The educational system has the potential to provide quality education for all individuals, and to rise above the stigmas that still exist in society (Beckett, 2009). These stigmas may even be reduced through the educational system if effective programs are in place. However,

educational institutions can also perpetuate inequalities associated with gender, ethnicity, class, or disability (Beckett, 2009.)

"When people are confronted by something very different to themselves, often the first response, the so-called fear response, is to reject it (Lombardo, 2010, n.p.)". Throughout history people have rejected individuals, ideas, and things that are new or different (Lombardo, 2010). General civil rights and rights for people with disabilities are similar in this way. Studies from as early as 1946 analyzed the perceptions of society and their effects on the lives of people with disabilities (Combs & Harper, 1957; Green & Retish, 1973; Lapp, 1957; Semmel & Dickson, 1966; Shattuck, 1946). In the 1960s, Yuker was a key researcher writing about the perceptions and attitudes of the general public toward people with disabilities (Schroedel, 1978; Yuker, Block, & Campbell, 1960; Yuker, Block, & Young, 1966). These studies showed that stereotypes for people with disabilities are usually strong no matter the cultural context. Stereotypes about people with disabilities in the past caused them to have confined roles of behavior and limited opportunities in American society (Altman, 1981; Schroedel, 1978). This historical work, however, does not describe society's current feelings about people with disabilities.

Perceptions are formed early in childhood through the way children are acculturated. Quicke (1986) showed that one must look at a person's base culture to understand how they react to people with disabilities. Western society places tremendous emphasis on physical perfection. People are driven to have the perfect body, one that is sporty, well-functioning, and attractive (Barnes, 1996 as cited in Krahe & Altwasser, 2006). Although attitudes towards people with disabilities have improved, there can still be pervasive feelings of fear, rejection and discomfort

during interactions between people with and without disabilities (Seifert & Bergmann, 1983 as cited in Krahe & Altwasser, 2006).

Current research on perceptions of people with disabilities in the United States is difficult to find, while analysis of perceptions in other countries is common, including Great Britain, Ireland, Japan, Germany, and China (Krahe & Altwasser, 2006). Grames and Leverentz (2010) surveyed college-age students from the United States and Chinese foreign-exchange students about their perceptions of disabilities. They found that in both countries college students were more accepting of people with physical disabilities than mental or emotional disabilities. Psychiatric disabilities such as schizophrenia were more difficult for the students to accept (Grames & Leverentz, 2010).

As students' age into junior high and high school, the time required to improve social acceptance of students with disabilities by their regular education peers escalates, even exponentially. Students will take less time to be accepting of people with disabilities when they encounter and learn about people with disabilities at young ages (Goodman, Wilson, & Bornstein, 1972; Gottlieb & Budoff, 1973 as cited in Eiserman, 1988).

**Special Education Services for People with Disabilities**

People with severe disabilities, such as those served in self-contained classrooms, were most often placed in institutions until The Education for All Handicapped Children Act of 1975 (EAHCA) required states to serve all students in public schools and schools and districts created special education classes for these individuals. Through the years, laws regarding people with disabilities have become more humane and acceptable to society. Such legislation indicates that people are becoming more aware of the unsuitable ways people with disabilities were treated in

the past.  Other countries have also created laws pertaining to the equality of people with disabilities (United Kingdom Digital Service, 2013).

In 2010, the United States reported that 6,480,540 students between birth and 21 years old were receiving services under IDEIA.  This includes early intervention, special education, and post-high school services (U. S. Department of Education, 2010).  This total is disaggregated into 294,714 infants and toddlers (0-2), 698,928 pre-school aged children (3-5), and 6,019,596 school-age children and youth (6-21).  More males are serviced in special education than females.

Students with low-incidence disabilities, such as a developmental disability, are often identified early in life.  These students frequently receive early intervention special education services.  Once these students are in special education there is low probability (2-12% chance) that they will be declassified and no longer receive special education services (U. S. Department of Education, 2010).

The continuum of special education services for students with disabilities ranges from least restrictive (regular general education classes), to most restrictive (special classes, special schools, home instruction, and instruction in hospitals and institutions) (§34 300.115 (b)(1)).  The most restrictive environment in neighborhood schools is a self-contained classroom or special class in which students with significant cognitive or physical needs spend 60% or more of their school day separated from their peers without disabilities.  Students with developmental disabilities are most often served in these classrooms, also referred to as cluster classes or units.  These classes are designed to serve students when the severity of the disability is such that education in regular classes with supplementary aids is not satisfactory (§300.114 (a)(2)(ii)).  In this portion of the continuum, students receive all or most of their classroom instruction from

special education teachers. In these models students with disabilities usually have opportunities to interact with their non-disabled peers during activities such as art, music, physical education, recess, lunch, and assemblies (Mastropieri & Scruggs, 2007). Self-contained classrooms are mainly used to serve students who are working on communication, functional skills, and basic literacy. The curriculum is modified from that of the general classroom in various ways, including smaller class sizes, life skills instruction, and alternative assessment methods (U. S. Department of Labor, 2010).

**Services for Students with Severe Disabilities in Nebo School District**

Students in Nebo School District are classified for special education on a case-by-case basis. Individual school teams, including at least the parent(s), special education teacher, local educational authority representative (LEA), and general education teacher, decide the best service pattern for each student. In general, students with overall standard IQ scores of 70 or below are considered to be severely impaired. These students must be tested in at least three areas: academic achievement, adaptive skills, and IQ. To be classified with an intellectual disability a student must have scores two standard deviations or more below the mean. In Nebo District, students must have standard IQ scores in the 70s or below in each test when the mean is a standard score of 100 (Utah State Office of Education, 2007, p. 41(1)(a)).

Self-contained classrooms and severe disabilities have differing definitions based on the state, and occasionally, school district. According to federal law a student must "require ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and enjoy the quality of life available to people with fewer or no disabilities" (National Dissemination Center for Children with Disabilities, 2010. n.p.) to be

classified with a severe disability. A student with a severe disability may have problems in one or more of the following areas:

1. Limited speech or communication

2. Difficulty in basic physical mobility

3. Tendency to forget skills through disuse

4. Trouble generalizing skills from one situation to another; and/or

5. A need for support in major life activities (e.g., domestic, leisure, community use, vocational) (National Dissemination Center for Children with Disabilities, 2010, n.p.)

Likewise, the Utah State Office of Education (USOE) Special Education Rules describe students served in self-contained classrooms as those with significant delays or deficits (Utah State Office of Education [USOE], 2007). The USOE document lists the following areas of developmental delay:

1. Cognitive development

2. Physical/motor development

3. Language/speech development

4. Social/emotional development; and

5. Self-help skills/adaptive behavior

In addition, a student having a significant developmental delay must be assessed by a multidisciplinary team and determined to be functioning:

1. l.5 standard deviations below the mean, or at or below the 7th percentile in three areas of development

2. 2.0 standard deviations below the mean, or at or below the 2nd percentile in two areas of development

3. 2.5 standard deviations below the mean, or at or below the 1st percentile in one area of development (USOE, 2007, p 35.)

Developmental delay is a disability category that can be used in Utah until the student is eight years old. Many of these students are then reclassified as having intellectual disabilities, other health impairments, or other disabilities.

**Peer Tutoring**

Peer tutoring is a term used for individuals who, under the direction of a teacher, provide instructional assistance to other individuals of the same or near the same age. According to Okilwa and Shelby (2010), peer tutoring is a component of cooperative learning. It is a strategy class that uses peers to provide one-to-one teaching, providing individual instruction, practice, and clarification of ideas.

**Purposes of peer tutoring.** The overall purpose of peer tutoring is to provide more instructional attention to individual students. Peer tutoring was used in the early 1960s as a way to meet the need for increased one-on-one interaction between students and teachers, and to address the potential problems caused by an impending teacher shortage (Wheldall & Mettem, 1985). In self-contained classrooms teachers use a variety of strategies to address the needs of their students. Some commonly used strategies include direct instruction, repetition, and one-on-one instruction. Each of these strategies can be effective with small groups of students, yet each becomes more difficult as the student-to-teacher ratio increases and student needs diverge. One-on-one instruction is difficult even in self-contained classrooms for the simple reason that, while each student may benefit from the teacher's full attention, the teacher cannot attend exclusively to each student. Therefore, peer tutors can be used to increase individual student contact time (Ryan, Reid, & Epstein, 2004).

Peer tutors can teach students with disabilities academic material as well as social norms and skills, cultural norms, and the rules of social games and activities. A synthesis of literature regarding the effects of peer tutoring on students with disabilities revealed that peer tutoring can have positive effects for students with disabilities, including improved academics, more desirable behaviors, and improved social interactions and relationships (Okilwa & Shelby, 2010). Rae and Baillie (2005) report that peer tutoring can provide social and emotional support as well as instruction and advice.

**Formats for peer tutoring.** Peer tutoring has been useful for students from elementary school to college, and includes four common formats: heterogeneous, reverse-role, homogeneous, and cross-age (Stenhoff & Lignugaris-Kraft, 2007). Each of these formats is explained in detail below.

*Heterogeneous peer tutoring*. The most common form of heterogeneous peer tutoring is class wide peer tutoring (CWPT) (King-Sears & Bradley, 1995). CWPT allows each individual student the opportunity to (a) have the role of both tutor and tutee, (b) work on curriculum at individual levels, and (c) interact with various types of students in the classroom (King-Sears & Bradley, 1995). "CWPT is known to be beneficial in improving student engagement and achievement because many more students can respond in the same amount of time that an individual student would have an opportunity to respond during teacher-led instruction" (Kunsch, Jitendra, & Sood, 2007, p.1).

*Reverse-role peer tutoring.* Reverse-role peer tutoring occurs when a student with a disability teaches a concept to a student without a disability. Usually, the tutee is younger than the tutor. The effects of this version of peer tutoring differ from other forms. Hall and Stegila (2009) state that tutors receive tutoring and interpersonal skills, and provision of needed practice

in academic areas. The tutee also has the opportunity to learn the material. This material is often stated in a clearer and more concise way for the tutee to understand. The students with disabilities are able to teach a concept in a way that the peer can understand with greater clarity.

*Homogeneous peer tutoring*. When a tutee and tutor are of the same academic peer group it is considered homogeneous peer tutoring. Also known as ability grouping, homogenous peer tutoring allows students of the same academic achievement level to proceed at their normal and comfortable pace, and lower-achieving individuals do not hold other students back.

*Cross-age peer tutoring*. Cross-age peer tutoring uses a tutor who is older than the tutee. This is a common form of tutoring in elementary schools, but is also used in out-of-school programs and in private tutoring (Leland & Fitzpatrick, 1994).

Stenhoff and Lignugaris-Kraft (2007) conducted a review of 20 studies in regard to peer tutoring in secondary settings. They found that heterogeneous tutoring is the only format considered an evidence-based practice.

**Peer tutoring in Nebo School District.** Nebo School District does not have written guidelines regarding the training or use of peer tutors in schools. In this district peer tutors are used in most junior high and high school self-contained special education classrooms. Peer tutors sign up for the class via regular registration and use it for elective credit toward graduation. The students receive letter grades (A-F) depending on attitude, participation, and a final paper. The classes vary; some have a few extra writing assignments throughout the semester. More females sign up for peer tutoring than males in Nebo District. In unofficial and informal queries from individual teachers to their peer tutors, the main reasons for registration are curiosity, having worked with people with disabilities in the past, wanting to grow in patience, and thinking it would be an easy "A".

In the classroom, and depending on the type of lesson being presented, the peer tutors help the students pay attention to the teacher, help them answer questions in class, and give extra support on individual work. The peer tutors also direct students' daily work on Individualized Education Program (IEP) goals or drilling. Peer tutors can also accompany semi-independent students to general education or resource room classes where the peers help the students with attention, academics, and understanding. In the special education classroom peer tutors can help with role-plays, academic work, and social skills acquisition. This is a step toward the students attending the general education classes independently.

**Effects of peer tutoring on students with disabilities.** Several studies provide evidence that various forms of peer tutoring can increase academic and behavioral gains for students with disabilities (Lazerson, Foster, Brown & Hummel, 1988; Maheady & Gard, 2010; Okilwa & Shelby, 2010; Stenhoff & Lignugaris-Kraft, 2007). Positive effects for students with disabilities include improved academics, more desirable behaviors, and improved social interactions and relationships, as well as individualized instruction and companionship from the tutors (Quicke, 1986). Maheady and Gard (2010) report that peer tutoring helped all pupils, including those with disabilities, to make extensive gains in their learning and academic behavior in class, while allowing teachers to simultaneously engage each student in the instructional activity.

Rae and Baillie (2005) report that peer tutoring can provide social and emotional support as well as instruction and advice. "Pupils are educated informally by induction into the culture of pupils, by learning the rules of the game which will enable them to survive and prosper in their relationship with peers" (Quicke, 1986, p. 147). Peer tutoring has also been successful in the change of behavior and feeling of acceptance in students with learning disabilities and truancy issues (Lazerson et al., 1988). It is also shown that peer tutoring can increase

participation in general education curricula for students with disabilities (Hughes, Saumell, & Sinagub, 2001).

A study of the psychology behind peer tutoring and the effects on the tutee found that students with disabilities often mix with students who are members of a school's other marginalized groups (Hegarty & Pockington, 1982). These groups are usually underachieving, disruptive, or behave in potentially harmful ways. The authors hold that peer tutoring can help alleviate the problem by providing students with disabilities the opportunity to work, learn, and interact with students with greater maturity, stronger work ethic, and who exemplify the social norms of society. The authors also note that, as students age, especially in secondary school settings, the social distance between students with disabilities and their peers without disabilities increases as the level of intolerance grows. Students at these ages are biologically inclined to a greater sense of competition and social acceptance. The heightened sense of competition and social acceptance can negatively affect students with disabilities. The social groups that often accept students with disabilities teach them maladaptive community and academic behavior, as they want to be accepted by their peers (Hegarty & Pockington, 1982). Peer tutoring allows older students to learn at their own pace and with the most individualized instruction, as well as giving them the increased peer interaction and association necessary for that developmental age (Okilwa & Shelby, 2010).

In summary, peer tutoring has been shown to have positive academic outcomes for the tutee across all types of instruction in the classroom (Ryan et al., 2004), to promote increased success in specialized academic situations such as art (Heron, Welsch, & Goddard, 2003), and to promote appropriate social skills for students with disabilities.

**Effects of peer tutoring on peer tutors**. Hegarty and Pockington's study (1982) is the only major study to have focused on peer tutors in the secondary setting. Most have studied the effects of peer tutoring on the achievement of students with disabilities. If they do mention the perceptions of the peer tutors then it is in addition to the study. The few extant studies report a range of positive effects, including increased friendship between those with and without disabilities (Haring, 1984), better understanding and perceptions of disability (Hughes et al., 2001), improved understanding about how to make difficult subjects understandable, improved understanding of content (Galbraith & Winterbottom, 2011; Roscoe & Chi , 2007; Topping, 1996) and increased confidence, caring, and acceptance of diversity (Jones, 2007). The majority of these studies were conducted at the elementary level. Little information is available regarding the effects on peer tutors in junior high school.

## Problem Statement

The problem in the field is that comparatively little research exists to explain the impact of peer tutoring on junior high-aged tutors' perceptions of and attitudes toward their peers with severe disabilities. Alreck and Settle (2004) explain that attitudes drive people's understanding of, feelings about, and actions toward the group, object or concept in question. These components can be referred to as the cognitive, or knowledge, component; the affective, or feelings component, and the behavioral, or action, component, as proposed by Triandis (1971) and described by Gall, Gall, and Borg (2003). Further study is needed to better understand the cognitive, affective, and behavioral components of attitude in this age group, including peer tutors' understanding of students with severe disabilities, their feelings about the students they tutor, and how their understanding of and feelings toward tutees affect their actions as peer tutors.

**Purpose of the Study**

The purpose of this study is to contribute additional knowledge to the field by measuring, analyzing and reporting junior high-aged general education students' attitudes toward students with severe disabilities before and after serving as peer tutors in self-contained junior high school special education classrooms.

**Research Question**

The following question was addressed by the study: What are the effects of peer tutoring experiences on junior high general education students' attitudes toward students with disabilities served in self-contained special education classrooms?

**Methods**

The research question was answered using survey research and included control groups to facilitate comparison between those who tutor and those who do not. Survey research is used for three purposes: (a) to determine how to influence an audience, (b) to design or change a product or service, or (c) to study human behavior, as reported by the individuals under study (Alreck & Settle, 2004). This survey addressed the latter, and employed questionnaires to collect self-reported data for the purpose of comparing attitudes before and after the peer tutoring experience. The questionnaires provide primary data; that is, data collected and analyzed for the specific purpose of answering the research question.

**Participants**

Using a criterion sampling approach (Miles & Huberman, 1994), participants were drawn from junior high-aged male and female students that met the criteria of enrollment in the peer tutoring program and that tutored second semester during the 2012-13 school year. The sample pool included approximately 140 individuals from which the participants were those who

consented to take part in the study. Control group participants in each school were randomly selected from 8th -9th grade English classes based on ratio criteria approximating the ages and gender of the tutor groups.

Students from six classrooms in three junior high schools participated in the study. Two of the schools are demographically and geographically similar suburban sites, and the third school is in a rural area of the district. A total of 102 students participated, 70 in the treatment group and 32 in the control group. Forty-five treatment participants and 20 control participants completed all questions for the pre- and post- questionnaires.

**Settings**

The settings were six junior high schools in Nebo School District in central Utah. The district covers suburban to rural communities. As of October 2011, Nebo School District had 29,724 students enrolled (USOE, 2011). Of the total, 14,484 of the students are female and 15,240 are male. There are 263 Asian, 267 Black/African American, 271 American Indian, 349 Pacific Islander, 2,993 Hispanic/Latino, and 28,921 White in the district (USOE, 2011). Each participating school contains one or more self-contained classrooms for students with severe disabilities, and each school has a peer tutoring program in place in each of the self-contained classrooms. Each student can enroll in the peer tutoring program for one semester (half of the school year). These classes are daily for 45 minutes. These students may be asked to go to other classes with students (e.g., P.E., health, history, art), or work one-on-one in the special education classroom addressing life skills training, math, English, or other skills. Peer tutors attend approximately one field trip out into the community with the special education class.

**Measures/Instruments**

The study employed a questionnaire entitled *Chedoke-McMaster Attitudes Toward Children with Handicaps* (CATCH) (Rosenbaum, Armstrong, & King, 1986) (see Appendix B). CATCH includes 12 items each for the cognitive, affective, and behavioral domains of attitude described by Gall et al. (2003). The 36 items are answered using a five-point Likert scale ranging from 0, strongly disagree to 4, strongly agree for positively worded items and inversely scaled for negatively worded items (Rosenbaum et al., 1986). The word "handicap" in the original measure was changed to "disabilities" to make it more understandable to the participants completing the surveys. The term "children" was changed to "students" to make it more applicable to the school setting.

Developed in Canada, CATCH has been translated into several languages, used internationally (Vignes, Coley, Grandjean, Godeau, & Arnaud, 2008), and employed as recently as 2010 (Bossaert, Colpin, Pijl, & Petry, 2011) with the word "handicaps" changed to "disabilities" in the questionnaire items. The instrument has been reported as a pre- and post-measure in two peer-reviewed studies and as a descriptive measure in five studies (Bossaert et al., 2011; Vignes et al., 2008).

**Validity**

CATCH was designed for children ages 9-13, but has been used successfully with children up to 16 years of age (Rosenbaum, Armstrong, & King, 1986; Vignes et al., 2008). Initial field testing with 308 children in grades 5-8 across four schools resulted in a Cronbach's Alpha coefficient of .90 and one month test-retest reliability coefficient of .73 for the total CATCH (Rosenbaum et al., 1986). Cronbach's Alpha provides a measure of the likelihood that participants will answer test items in a consistent manner (Gall et al., 2003). A coefficient of .90

is considered excellent evidence of internal consistency, .80 to .90 is good, and .70 to .80 is considered acceptable (George & Mallory, 2003). CATCH appears to have strong internal validity across several sample groups and acceptable test-retest consistency.

**Data Collection**

Letters of consent for parents and assent for students were sent to the home of each peer tutor before the beginning of the second semester of the school year. There were approximately 90 consent forms mailed to the peer tutor group, and 90 given to the control group. The control group received their letters on the first day of their grade level English class. The treatment group returned 71 of the consent forms and the control group returned 31. Peer tutors who returned the consent forms received the survey on the first day of class and control students received the survey when they returned the form. The peer tutor survey was administered by the special education teacher in charge of each classroom using directions explained and provided by the researcher (see Appendix B). The control group surveys were administered by a randomly selected grade level English teacher in each school. The peer tutors were from grades 7-9, or ages 12-14. Most peer tutors were in grades 8-9. Each participant tutor completed the questionnaire twice, once prior to peer tutoring for the semester and once in the middle of the semester after about two months of peer tutoring. Each control group participant completed the questionnaire at the beginning and the middle of the semester following the same pattern as the peer tutors (see Table 1). The average reported completion time was ten minutes.

**Data Analysis**

Following the work of Bossaert et al. (2011), total and subscale scores for cognitive, affective, and behavioral components were calculated for both surveys. The overall means and standard deviations were then calculated for the group of peer tutors in each classroom. CATCH

uses a Likert-type scale that yields ordinal data, and pre- and post- means for the same participants assumes a non-independent comparison. Comparing two groups (tutors and controls) completing the questionnaire two times each required a split-plot analysis of variance to compare means. Tutor means were compared to determine changes before and after the experience. Tutor and control means were compared to determine changes influenced by the tutoring experience. Means were analyzed and discussed regarding implications for changes in participant's attitudes, and whether there was evidence that peer tutoring influenced changes when compared to the control groups. Some students did not complete both the pre- and post-portions of the surveys, checked two boxes on the same line, or left a line blank. These results were removed from the analysis and only complete sets were used.

**Procedures**

The researcher obtained Institutional Review Board (IRB) permission from Brigham Young University and the district prior to the study. The researcher contacted all of the junior high schools in the district to gain permission to conduct the research. Five principals agreed to have the research conducted out of seven junior high schools in the district. The researcher contacted the individual special education unit teachers and five out of six teachers were willing to participate. Later in the study, one teacher dropped out due to the demands of her schedule. In order to find control group teachers, the researcher contacted the principals at the participating schools (who had willing special education teachers) asking to suggest several teachers from their staff that they thought would be willing to conduct the survey in their classrooms. The researcher contacted the suggested teachers at each school to find those willing to participate and copied and delivered surveys and instructions to each teacher. Likewise, the researcher contacted the self-contained classroom teachers in the participating junior high schools. The

administration procedures of the study were emailed to each teacher, and the researcher answered any questions or concerns. Peer tutor participants were recruited through the mail. The peer tutoring students returned the permission forms to their teacher on or before the first day of school and the control students' permission forms were retrieved when the classes started.

## Results

The data from the completed surveys indicate that the treatment group had more positive attitudes toward people with severe disabilities throughout the study, showing an average mean of 149 points on the pre- and 151 points on the post-, where the higher number indicates a more positive perception. The control group had initial and concluding means of 143 (see Figure 1).

In comparing the treatment group pre- and post- surveys by school, data show that School 3 was significantly different from the other two schools at the .005 level, increasing from a survey average of 144 to 154 (see Figure 2). School 1 had a lower average than the other two schools at 141 pre- and 142 post-survey, and School 2 decreased in positive attitudes from 156 to 154. Pre-survey scores show that control groups averaged 143 points and the treatment groups averaged 149.

In a secondary part of the study, a series of t-tests were conducted to find if any of the demographic areas were significant to changing the attitudes of the treatment group. Students with the experience of having a friend with a disability correlated with a significantly more positive view of people with disabilities at the .003 level (see Table 2). Knowing a student with disabilities in their current junior high school was significant at a .035 level (see Table 3). Other demographics, including knowing a student with disabilities from elementary school (see Table 4), having a family member with a disability (see Table 5), and sex of the participant (see Table 6) were not significant factors in creating a more positive attitude of people with disabilities.

**Discussion**

This study investigated the effects of peer tutoring experiences on junior high general education students' attitudes toward students with disabilities served in self-contained special education classrooms. Results varied across the three schools. According to the split-plot ANOVA statistical test School 1 showed a one-point increase in attitude for peer tutors, School 2 saw a two-point decline in attitudes, and School 3 showed a significant increase in positive attitudes (see Figure 2). The slope for School 3 from pre- to post-test was significantly different from School 1 and School 2.

The reduction in attitude scores from pre- to post- in School 2 (see Figure 2) may be due to the fact that the school contains the behavior disorders unit for the district, a setting in which peer tutoring can be more difficult. The students in this class often display violent outbursts, which can be quite disturbing for anyone unprepared for explosive behavior. It is possible that daily exposure to externalizing behaviors served to undermine peer tutors' attitudes toward this particular group.

School 3 is the only setting that showed a significant difference in the pre- to post-surveys (see Figure 2). It also had the lowest beginning point for the treatment group. A clue to the significant change in attitudes might be contained in the differences in family background between this school and the others. School 3 serves a demographically different rural population wherein the students likely have less contact with people with disabilities than students in the more suburban schools. Lack of familiarity with individuals with severe disabilities may have caused these students to be less positive before tutoring, but show statistically significant improvement as a result of their experiences. As Corrigan and Watson (2002) found, "[people with disabilities] are challenged by the stereotypes and prejudice that result from misconceptions

about [them]….fear leads to avoidance" (p. 1). Students may avoid interactions with individuals with disabilities because of cultural stereotyping and therefore show marked changes in attitude after positive interpersonal experiences.

The data show an obvious discrepancy between the average initial survey results of the control and treatment groups (see Figure 1). Although it is not statistically significant, it is socially significant. This discrepancy may have affected the outcome of the study in that students who enrolled in peer tutoring had higher scores and more positive attitudes toward people with disabilities to begin with than students in the control group (.056 level discrepancy). This higher initial average for the treatment group may have reduced the effects of the peer tutoring association on the tutors' attitudes. It is possible that control group students, with their lower pre-survey scores, may have shown a noticeable change in attitude if they had positive peer tutoring experiences.

The study found that students who had a friend with a disability had statistically significant higher scores than those who did not mark this category (see Table 2). Whether from school, church, or other outside agencies, having a friend with a disability creates a more positive outlook for those individuals in both the treatment and control groups than those who did not have a friend with a disability. When a student has labeled another student as a friend they have chosen each other (Lutfiyya, 1991). Friendship is voluntary, and when students have friendships with students with disabilities, they have a high regard for the individual, enough to spend time and energy on the relationship. These students have found that whatever differences may be, there are good things to come from being with this person (O'Brien & Mount, 2005).

Though most of the data were statistically insignificant, the study still presents some educationally impactful outcomes. Teachers and students shared their opinions of the peer

tutoring courses and their experiences working with students with severe disabilities both verbally and in writing. Some tutors told their participating teachers that peer tutoring was their favorite class. Other tutors noted that the students were fun to work with, and although many claimed that they were nervous at the beginning of the program, they grew to enjoy working with and helping the students. This coincides with previous findings that peer tutoring can help tutors and tutees through expanded understanding of academic, social, communication, and life skills (Haring, 1984; Hughes et al., 2001; Jones, 2007). All of the students involved learn to understand that differences in individuals should be encouraged and not diminished, and that they can be friendly with people regardless of differences.

Some peer tutors who themselves have mild disabilities shared that for the first time they felt successful, smart, and helpful when they were working with the students with severe disabilities. One parent mentioned that one of the tutors with milder disabilities expressed great excitement to see the students learning, and to realize that she was helping another person succeed. She rejoiced in the smallest improvements and when students achieved their goals. The experience made the peer tutor more positive about her own goals and abilities. Teachers reported that without the peer tutors they would not be able to operate their classes to achieve outcomes for their students with disabilities, as reported by other researchers (Ryan et al., 2004; Okilwa & Shelby, 2010). They claimed that the peer tutors were invaluable to running their classroom, which supports assertions from past research (King-Sears & Bradley, 1995; Kunsch, 2007). Teachers reported that the peer tutors themselves increased in patience, understanding, and in learning how to interact with and find new ways to teach concepts. As stated by Galbraith and Winterbottom (2011), the teachers also found that the peers became more self-sufficient and proactive.

**Limitations**

There were some unavoidable limitations to the study. First, the sample sizes of the treatment and control groups were small due to schools dropping out of the study and the number of incomplete surveys. Due to the small sample size it is difficult to generalize the data for use in other settings. Second, the incomplete surveys hindered data collection, and third, the data may have been biased because peer tutoring is an elective course. Students with more positive attitudes towards students with disabilities are more likely to enroll in the course. This could be the reason for more positive initial surveys from the treatment group, and less positive initial surveys from the control group. Last, there was a time limitation. The participants only had from the beginning of January through the middle of March between pre- and post-surveys. It can take time for peer tutors to become comfortable with their role, so this short research period may have made the results less significant that they would have been if the research had been extended.

**Implications for Further Research**

Further research should further investigate how peer tutoring can affect general education students' attitudes and perceptions of people with severe disabilities. This research should address the limitations to this study, specifically, the small sample size. If possible, further research should be done where everyone, not only those who elect to participate by signing up for the class, participates in this type of program. This would shed new light on how different people react to these situations, and see if the results could be more significant without the bias. In conjunction, researchers should conduct periodic interviews with the students in order to provide further insight.

Studies should be conducted to learn if peer tutoring can affect the increase or decrease of bullying for people with severe disabilities. These studies could see if people are more likely to be accepting of all people, no matter their differences. In conjunction with this research, school districts, principals, and teachers should encourage the building of peer tutoring programs. This will help the tutor and the tutee and improve their school climate and their students.

**Conclusion**

This study measured changes in the attitudes of junior high school students as they tutored students with severe disabilities. The data showed little change in peer tutor attitude in two of the schools and a significant increase in positive perceptions in the third school when compared to the other two. Results may indicate that students who choose to be peer tutors already have positive attitudes towards students with severe disabilities, and therefore had little change over the course of the study. Students who tutored in self-contained classrooms for behavior disorders showed a decrease in positive attitude, likely due to the stressful and sometimes explosive behavioral environment. The third school is located in a rural setting with fewer opportunities for students to interact with individuals with disabilities, which could have made the tutoring experience more impactful on attitude change. Except for those in the behavior disorders classroom, peer tutors ended the study with positive attitudes. The lack of research in this area indicates that further studies would be useful to better understand the impact of peer tutoring on student attitudes towards individuals with disabilities.

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**APPENDIX A: Review of Literature**

Disabilities are often described on a continuum from mild to severe.  *Developmental disability* is an umbrella term used in special education to describe the moderate to severe end of the continuum.  Developmental disability means a severe, chronic disability of an individual that is attributable to a mental or physical impairment or combination of mental and physical impairments; is manifested before the individual attains age 22; is likely to continue indefinitely; and results in substantial functional limitations in three or more of the following areas of major life activity:

1.  Self-care

2.  Receptive and expressive language

3.  Learning

4.  Mobility

5.  Self-direction

6.  Capacity for independent living

7.  Economic self-sufficiency; and

8.  Reflects the individual's need for a combination and sequence of special, interdisciplinary, or generic services, individualized supports, or other forms of assistance that are of lifelong or extended duration and are individually planned and coordinated  (42 USC 15002 §102(8)).

Developmental disabilities, affected about 15.1% of students served in special education in 2009.  These students are often identified early in life, and frequently receive early intervention special education services.  Intellectual disability, manifested by "significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive

behavior and manifested during the developmental period, that adversely affects a student's

educational performance (Utah State Office of Education, 2007, p 41)" is the most common

developmental disability in the U. S. (Eunice Kennedy Shriver National Institute for Child

Health and Human Development, 2011, n.p.).  In public school settings, intellectual disabilities

make up 7.4 % of children served by special education.  Other developmental disabilities include

emotional disturbance, other health impairment, multiple disabilities, autism, and traumatic brain

injury (U. S. Department of Education, 2011).

**Special Education Services for Students with Developmental Disabilities**

In 2005, states reported that 7,013,238 students between birth and 21 years old were

receiving services under the Individuals with Disabilities Education Improvement Act

(IDEIA).  This includes early intervention, special education, and post-high services (U. S.

Department of Education, 2010).  This total is disaggregated into 294,714 infants and toddlers

(0-2), 698,928 pre-school aged children (3-5), and 6,019,596 school-age children and youth

(6-21).  More males are serviced in special education than females.  Students with low-

incidence disabilities, such as a developmental disability, are often identified early in life.

These students frequently receive early intervention special education services.  Once these

students are in special education there is low probability (2-12% chance) that they will be

declassified and no longer receive services (U. S. Department of Education, 2010).

The continuum of special education services for students with disabilities range from

least restrictive (regular general education classes), to most restrictive (special classes, special

schools, home instruction, and instruction in hospitals and institutions) (§34 300.115 (b)(1)).

The most restrictive environment in neighborhood schools is a self-contained classroom or

special class in which students with significant cognitive or physical needs spend 60% or more

of their school day separated from their peers without disabilities. Students with developmental

disabilities are most often served in these classrooms, also referred to as cluster classes or units.

These "special classes… occur only if the nature or severity of the disability is such that

education in regular classes with the use of supplementary aids and services cannot be achieved

satisfactorily (§300.114 (a)(2)(ii))." In this portion of the continuum, students receive all or most

of their classroom instruction from special education teachers. In these models students with

disabilities usually have opportunities to interact with their non-disabled peers during activities

such as art, music, physical education, recess, lunch, and assemblies (Mastropieri & Scruggs,

2007). "…Self-contained classrooms typically serve students who are working on

communication, basic literacy, and functional skills for daily life. Curriculum in these settings

requires modification from the general education curriculum, not just adapted with aids or extra

time, to fuse functional skills and standard objectives" (U. S. Department of Labor, 2010, n.p.).

In Nebo School District, students are classified for special education on a case by case

basis. Individual school teams, including at least the parent, special education teacher, local

educational authority (LEA), and general education teacher, decide the best service pattern for a

student. In general, students with overall standard IQ scores of 70 or below are considered to be

severely impaired. These students must be tested in at least three areas: academic achievement,

adaptive skills, and IQ. To be classified with an intellectual disability a student must have scores

three standard deviations or more below the mean. In Nebo District students must have standard

scores in the 70s or below in each test when the mean is a standard score of 100 (Utah State

Office of Education [USOE], 2007, p. 41(1)(a)).

Self-contained classrooms and severe disabilities have differing definitions based on

state, and occasionally, school district. According to federal law a student must "require

ongoing, extensive support in more than one major life activity in order to participate in integrated community settings and enjoy the quality of life available to people with fewer or no disabilities (National Dissemination Center for Children with Disabilities, 2010. n.p.)" to be classified with a severe disability. A student with a severe disability could have problems in one or more of the following areas.

1. Limited speech or communication

2. Difficulty in basic physical mobility

3. Tendency to forget skills through disuse

4. Trouble generalizing skills from one situation to another; and/or

5. A need for support in major life activities (e.g., domestic, leisure, community use, vocational) (National Dissemination Center for Children with Disabilities, 2010)

Likewise, the Utah Office of Education Special Education Rules and Regulations describe students served in self-contained classrooms as those with significant delays or deficits. The USOE document lists the following areas of developmental delay:

1. Cognitive development

2. Physical/motor development

3. Language/speech development

4. Social/emotional development

5. Self-help skills/adaptive behavior (USOE, 2007, p 35.)

In addition, a student having a developmental delay must be assessed by a multidisciplinary team and determined to be functioning:

1. 1.5 standard deviations below the mean, or at or below the 7th percentile in three areas of development, or

2. 2.0 standard deviations below the mean, or at or below the 2nd percentile in two areas of development, or

3. 2.5 standard deviations below the mean, or at or below the 1st percentile in one area of development.

Developmental delay is a disability category that can be used until the student is eight years old.  Many of these students are then reclassified as having intellectual disabilities or other health impairments, among others.  Low incidence disabilities are most commonly served in self-contained special education classrooms.

**Peer Tutoring**

Peer tutoring is a term used for people of the same or near same age (a peer) who help educate other people/students.  According to Okilwa and Shelby (2010), peer tutoring is a component of cooperative learning.  It is a strategy class that uses peers to have one-to-one teaching.  This provides individual instruction, practice, and clarification on ideas (Okilwa cited in Utley & Mortweet, 1997).  Peer tutoring is seen as having four basic formats; reverse-role, heterogeneous, homogeneous, and cross-age (Stenhoff & Lignugaris-Kraft, 2007).

**Purposes of peer tutoring.** Educators use various teaching techniques when teaching students with disabilities.  Peer tutors can teach students with disabilities academic material as well as life skills such as social norms and skills, culture, and rules of games or society.  A synthesis of literature regarding the effects of peer tutoring on students with disabilities revealed that peer tutoring can have positive effects on the academic performance of students with disabilities, including improved academics, desirable behaviors, and improved social interactions and relationships (Okilwa & Shelby, 2010).  Rae and Baillie report that (2005) peer tutoring can provide social and emotional support as well as instruction and advice.

One of the well-known influential studies is Hegarty and Pockington (1982). This studied the psychology behind peer tutoring. They found that people with disabilities often mix with people who are members of school's other outgroups (Hegarty & Pockington, 1982). Usually these groups are underachieving, disruptive, or behave in potentially harmful ways, such as using drugs. The authors hold that peer tutoring can help alleviate those inherent problems by giving students with disabilities the opportunity to work, learn, and interact with students with greater maturity, stronger work ethic, and who exemplify the social norms of society. Hegarty and Pockington (1982) also note that as students' age, especially in secondary school settings, the gap between students with disabilities and their general education peers increase to a high level of intolerance. At these ages students are biologically inclined to a greater sense of competition and social acceptance. These attitudes can negatively affect students with disabilities as they only want to be accepted and have friends outside their class.

When teaching students with disabilities educators use various teaching strategies, especially in self-contained or severe classrooms. Some commonly used strategies include direct instruction, repetition, and one-on-one instruction. All three of these work best with a small number of students, and each becomes more difficult as the student to teacher ratio increases. To help increase the number of instructors, peer tutoring was instituted in self-contained classrooms.

Initially, peer tutoring was used as a way to alleviate the need of increased one-on-one interaction between students and teachers, and to disperse the potential problems caused by an impending teacher shortage in the early 1960s (Wheldall & Mettem, 1985). The education the peer tutors gave was formal and informal in nature.

**Formats for peer tutoring.** Peer tutoring has been useful for students from elementary to college, and includes four common formats: heterogeneous, reverse-role, homogeneous, and

cross-age (Stenhoff & Lignugaris-Kraft, 2007). Each of these formats is explained in more detail below.

*Heterogeneous peer tutoring.* The most common form of heterogeneous peer tutoring is classwide peer tutoring (CWPT) (King-Sears & Bradley, 1995). Classwide peer tutoring allows each individual student the opportunity to have the role of both tutor and tutee, work on curriculum at individual levels, and interact with various types of students in the classroom (King-Sears & Bradley, 1995). "CWPT is known to be beneficial in improving student engagement and achievement because many more students can respond in the same amount of time that an individual student would have an opportunity to respond during teacher-led instruction" (Kunsch, Jitendra, & Sood, 2007).

*Reverse-role peer tutoring*. Reverse-role peer tutoring occurs when a student with a disability teaches a concept to a student without a disability. Usually, the non-disabled tutee is younger than the tutor. This version of peer tutoring can have different effects on the tutor and tutee than other forms of peer tutoring. Hall and Stegila (2009) state that tutors receive tutoring and interpersonal skills, and provision of often needed practice in an academic area. The non-disabled tutee has the opportunity to learn the material. This material is often stated in a clearer and more concise way for the tutee to understand. The peers are able to teach a concept in a way that the peer can understand with greater clarity.

*Homogeneous peer tutoring.* When a tutee and tutor are of the same academic peer group it is considered homogeneous peer tutoring. Also known as ability grouping, homogenous peer tutoring allows students of the same academic achievement proceed at their normal and comfortable pace, and lower-achieving individuals do not hold the students back.

*Cross-age peer tutoring.* Cross-age peer tutoring has a tutor who is older than the tutee. Cross-age peer tutoring has a tutor who is older than the tutee. This is a common form of tutoring in elementary schools, but is also used in outside of school programs and in private tutoring (Leland & Fitzpatrick, 1994).

Stenhoff and Lignugaris-Kraft (2007) conducted a review of 20 studies in regard to peer tutoring in secondary settings. They found that heterogeneous is the only format considered an evidence-based practice.

**Effects of peer tutoring on students with disabilities**. Peer tutoring has been shown to positively influence students in special education. One-on-one instruction, the most beneficial kind of instruction for students with severe disabilities, is difficult even in special education self-contained classrooms. Each student requires a teacher's full attention to reach his or her full potential, however teachers cannot give their full attention to each student during every moment of the school day. Peer tutors can be used to increase the one-to-one teaching ratio to help the teacher achieve greater success with the students (Ryan, Reid, & Epstein, 2004). They can teach students with disabilities academic material as well as life skills such as social norms and skills, culture, and rules of games or society. Maheady and Gard (2010) report that peer tutoring helped all pupils, including those with disabilities, to make extensive gains in their learning and academic behavior in class. It also allows for teachers to simultaneously engage all their students in the various subjects they are teaching whether it be math, reading, or life skills (Maheady & Gard, 2010). Several studies have provided evidence that various forms of peer tutoring can increase students' with disabilities academic and behavioral gains (Lazerson, Foster, Crown & Hummel, 1988; Maheady & Gard, 2010; Okilwa & Shelby, 2010; Stenhoff & Lignugaris-Kraft, 2007). Positive effects for students with disabilities include improved

academics, increased occurrence of desirable behaviors, and improved social interactions and relationships, as well as individualized instruction and companionship from the tutors (Quicke, 1986).

According to Rae and Baillie (2005) peer tutoring can provide social and emotional support as well as instruction and advice. "Pupils are educated informally by induction into the culture of pupils, by learning the rules of the game which will enable them to survive and prosper in their relationship with peers (Quicke, 1986, p. 147)." Peer tutoring has also been successful in the change of behavior and feeling of acceptance in students with learning disabilities and truancy issues (Lazerson et al., 1988). Peer tutoring can increase participation in general education curricula for students with disabilities (Hughes et al., 2001).

Peer tutoring allows older students to learn at their own pace and with the most individualized instruction as well as giving them the increased peer interaction and association that are necessary for that developmental age (Okilwa & Shelby, 2010).

In summary peer tutoring has been shown to have positive academic outcomes for the tutee across all types of instruction in the classroom (Ryan et al., 2004 as cited in Okilwa & Shelby, 2010), have increased success in specialized academic situations such as art (Heron, Welsch, & Goddard, 2003), and to promote improved academic outcomes of students with disabilities.

**Chedoke-McMaster Attitudes Towards Children with Handicaps (CATCH).** The Chedoke-McMaster Attitudes Towards Children with Handicaps (CATCH) is a questionnaire consisting of 36 questions that are easily understandable and acceptable to children (Rosenbaum, Armstrong & King, 1986) (Appendix A). CATCH uses a five-point Likert scale that yields ordinal data. The 36 items are answered using from 0, strongly disagree to 4, strongly agree for

positively worded items and inversely scaled for negatively worded items (Rosenbaum et al., 1986). CATCH includes 12 items/questions each for the cognitive, affective, and behavioral domains of attitude described by Gall, Gall, and Borg (2003).  The questionnaire has been reported as a pre- and post- measure in two peer-reviewed studies and in five single probe descriptive studies (Bossaert, Colpin, Pijl, & Petry, 2011; Vignes, Coley, Grandjean, Godeau, & Arnaud, 2008).  CATCH was designed for children ages 9-13, but has been used successfully with children up to 16 years of age (Rosenbaum et al., 1986; Vignes et al., 2008).

Developed in Canada, CATCH has been translated into several languages, used internationally (Vignes et al., 2008), and employed as recently as 2010 (Bossaert et al., 2011) with the word "handicaps" changed to "disabilities" in the questionnaire items.

Bossaert et al. (2011) found the total and subscale scores for cognitive, affective, and behavioral components to calculate CATCH results from two groups, a control and an intervention group.  Initial field testing with 308 children in grades 5-8 across four schools resulted in a Cronbach's Alpha coefficient of .90 and one month test-retest reliability coefficient of .73 for the total CATCH (Rosenbaum et al., 1986).  Cronbach's Alpha provides a measure of the likelihood that participants will answer test items in a consistent manner (Gall et al., 2003). A coefficient of .9 is considered excellent evidence of internal consistency, .8 to .9 is good, and .7 to .8 is considered acceptable (George & Mallory, 2003).  CATCH appears to have strong internal validity across several sample groups and acceptable test-retest consistency.

**Effects of Peer Tutoring on Peer Tutors**

Few studies have focused on peer tutors; most have instead studied the effects of peer tutoring on the achievement of students with disabilities.  The few peer tutor studies reveal a range of positive effects, including increased friendship between those with and without

disabilities (Haring, 1984); better understanding and perceptions of disability (Hughes et al., 2001), improved understanding about how to make difficult subjects understandable; improved understanding of content (Galbraith & Winterbottom, 2011; Roscoe & Chi , 2007; Topping, 1996) and increased confidence, caring, and acceptance of diversity (Jones, 2007).

Hughes et al. (2001) found no studies showing students' perceptions of peer buddy programs.  Further study is needed to understand the perceptions and attitudes of middle school students toward their peers with severe disabilities, including peer tutor attitudes toward people with severe disabilities, what tutors feel they have gained from the peer tutoring experiences, and how the experience affects their general view of people with disabilities.

A 1987 study compared the social readiness of general education students that participated in a "special friend" experience, peer tutoring, and a regular non-volunteering student (Haring, 1984).  Results indicated that peer tutors spend an average of 35.3 seconds more interaction time with special education students they know than those who did not peer tutor, and 2.5 seconds more than the special friends.  With unfamiliar students with autism they interacted for 8.6 seconds more than the average population, and 2.4 seconds more than the special friends. These results show that peer tutoring increases the amount of time that general education students will interact with students with severe impairments of their own volition.

Galbraith and Winterbottom (2011) point out that peer tutoring can motivate the peer tutors to learn not only academically, but also metacognitively.  Tutors can learn how to enable other students to learn, and how to make difficult subjects understandable to other students (Galbraith & Winterbottom 2011.) Quicke (1986) found that positive interactions between the tutees and the tutors are influenced by individual biases and cultures.

Jones (2007) studied the impact of being a peer tutor for children with autism. The tutors were 10-11 years old and those with autism were ages 4-10. Jones reported that all the peer tutors found it to be an enjoyable experience and felt that tutoring had brought them direct benefits. Some of these benefits included building confidence, teaching responsibility, having a caring attitude, and becoming more accepting of diversity. They specifically list nine benefits of being a peer tutor in this class: (a) understanding that all people are different, (b) increasing understanding of autism, (c) increasing self-confidence and pride in themselves, (d) learning more patience, (e) feeling good about themselves, (f) becoming more responsible, (g) becoming more helpful, (h) learning to look after someone with a disability, and (i) recognizing how fortunate they are and to not take things for granted (Jones, 2007).

Peer tutoring in general is an effective practice. Galbraith and Winterbottom (2011) studied the perceptions of peer tutors tutoring other general education students. They found that in teaching, tutors can be motivated to learn and understand the material at a deeper level and can increase their understanding of details. It gives tutors the chance to revisit basic principles that can help them understand advanced issues in their own curricula.

Some studies state that becoming a peer tutor allowed the tutor and tutee to think about subjects in their own way. In trying to coherently process and teach the information the tutor can learn to better understand the material in a personal way (Galbraith & Winterbottom, 2011; Roscoe & Chi, 2007; Topping, 1996).

Hughes et al. (2001) studied the perceptions of students in a peer buddy service program designed to increase interactions between general education and special education students with severe disabilities. The general education students had positive views of their peers with disabilities and experienced growth in themselves. This growth was seen mainly in the areas of

improved understanding in how to make difficult subjects understandable, improved

understanding of content (Galbraith & Winterbottom, 2011; Roscoe & Chi , 2007; Topping,

1996) and increased confidence, caring, and acceptance of diversity (Jones, 2007).  The authors

found no studies that showed benefits to general education students who only received academic

credit without any other incentives to be in the program, and found no studies showing students'

perceptions of peer buddy programs (Hughes et al., 2001).

**Attitudes Toward People with Disabilities**

People with severe disabilities, many of whom who are served in self-contained

classrooms, were placed in institutions until The Education for All Handicapped Children Act

(EAHCA), the Rehabilitation Act of 1973 which allows equal access, and the Equal Pay Act of

1963 (Altman, 1981) forced states to place all students in public school and allowed for equal

access of public places for all people.  The government created special education classes for

these individuals. Before the above laws were passed people with severe disabilities were seen as

blights on society, and in some cases were treated like animals.  For example in 1915, a law, the

second in the nation, was introduced in Washington to sterilize those who were deemed as

"feebleminded." These institutions existed for people, "under 21 years of age who are

feebleminded, idiotic, epileptic, or physically defective to such an extent as to prevent them from

being educated in the common schools (Hamilton & Haber, 1917, p. 240)."  In the early 20th

century, sterilization was a way to destroy defective genes, and to prevent people who would be

criminals from entering the world. People with disabilities were seen as defective, and their

offspring posed a risk to society.

As years have progressed laws regarding people with disabilities have become more

humane and acceptable to our current culture.  The laws themselves show that people are

becoming more aware of the indecent way people with disabilities were being treated. Countries around the world have also created laws pertaining to the equality of people with disabilities.

Often the first response of people when they are confronted by something very different from themselves they reject it. This is called the fear response (Altman, 1981). Throughout history people have rejected other people or objects that are different from themselves when they are confronted with them. Civil rights and rights for people with disabilities are similar in this way. People with disabilities continue to suffer from stereotyping. One of the key researchers about the perceptions and attitudes of the general public toward people with disabilities is Yuker in the 1960s. This study however, does not show how people in our current time feel about people with disabilities (Yuker, Block & Campbell, 1960; Schroedel, 1978). In studies from as early as 1946, perceptions of society and their effect on the outcomes in the lives of people with disabilities have been conducted (Combs & Harper, 1957; Greene & Retish, 1973; Lapp, 1957; Semmel & Dickson, 1966; Shattuck, 1946). Stereotypes for people with disabilities have caused them to have confined roles of behavior that they have to play in society and limited opportunities (Schroedel, 1978).

Perceptions are formed early in childhood through the way children are acculturated. Quicke (1986) shows that you must look at a person's base culture to understand how they react to people with disabilities. Western society places tremendous emphasis on physical perfection. People are driven to have the perfect body which is sporty, well-functioning, and good-looking (Barnes, 1996 as cited in Krahe & Altwasser, 2006). Although attitudes towards people with disabilities have improved, there are still pervasive feelings of fear, rejection and discomfort during interaction between people with and without disabilities (Seifert & Bergmann, 1983 as cited in Krahe & Altwasser, 2006).

Current research on perceptions of people with disabilities in the United States is difficult to find. Analysis of perceptions in other countries is common. Some of these include Great Britain, Ireland, Japan, Germany, and China (Krahe & Altwasser, 2006). Grames and Leverentz (2010) surveyed college-age students from the United States and Chinese foreign-exchange students about their perceptions of disabilities. They found that in both countries the college students are more accepting of people with physical disabilities. Psychiatric disabilities such as schizophrenia were harder for the college students to accept (Grames & Leverentz, 2010).

**Perceptions of Students with Disabilities**

Increases in the ability and opportunity for people with disabilities have grown since the fight for equity in education. The ideas behind the Individuals with Disability Education Improvement Act (IDEIA) were to provide equal opportunity for people with disabilities in school. This was a large change from years before when they were placed in institutions.

The educational system has the potential to provide quality education for all individuals, and to rise above the stigmas that still exist in society (Beckett, 2009). These stigmas may even be reduced through the educational system if programs are in place to do so. In opposition, the educational system can also perpetuate inequalities associated with gender, ethnicity, class, or disability (Beckett, 2009). As students age and become students in secondary education, the time required to improve social acceptance of students with disabilities to their regular education peers escalates, even exponentially. The younger a student is when they confront and learn about people with disabilities the less time it takes for them to accept their peers (Goodman, Wilson, & Bornstein, 1972; Gottlieb & Budoff, 1973 as cited in Eiserman, 1988).

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**APPENDIX B: Consent Forms**

Child Assent for Control Group

# Child Assent (7-14 years old)
..............................................................................................................................

**What is this research about?**
My name is Amanda Hunsaker and I am a graduate student at BYU. I want to tell you about a research study I am doing. A research study is a special way to find the answers to questions. We are trying to learn more about your feelings about people with disabilities. You are being asked to join the study because your class has students in 8-9th grade that are not registered to be in the peer tutoring class at your school.

If you decide you want to be in this study, this is what will happen. You will answer a 36 question survey on paper on your first and last day of the semester that will take you less than 20 minutes.

**Can anything bad happen to me?**
You could feel a little uncomfortable when asked about how you feel about people with disabilities.

**Can anything good happen to me?**
We don't know if being in this study will help you. But we hope to learn something that will help other people some day.

**Do I have other choices?**
You can choose not to be in this study.

**Will anyone know I am in the study?**
We won't tell anyone you took part in this study. When we are done with the study, we will write a report about what we learned. We won't use your name in the report.

**What if I do not want to do this?**
You don't have to be in this study. It's up to you. If you say yes now, but change your mind later, that's okay too. All you have to do is tell us.

Be sure to ask **Amanda Hunsaker** to tell you more about anything that you don't understand. My e-mail is Amanda.hunsaker@nebo.edu.

If you want to be in this study, please sign and print your name.


Name (Printed): _____  Signature: _____  Date: _____

Child Assent for Peer Tutors

# Child Assent (7-14 years old)
.................................................................................................................................

**What is this research about?**
My name is Amanda Hunsaker and I am a graduate student at BYU. I want to tell you about a research study I am doing. A research study is a special way to find the answers to questions. We are trying to learn more about your feelings about people with disabilities. You are being asked to join the study because you registered to be a peer tutor this year.

If you decide you want to be in this study, this is what will happen. You will answer a 36 question survey on paper on your first and last day of peer tutoring class that will take you less than 20 minutes.

**Can anything bad happen to me?**
You could feel a little uncomfortable when asked about how you feel about people with disabilities.

**Can anything good happen to me?**
We don't know if being in this study will help you. But we hope to learn something that will help other people some day.

**Do I have other choices?**
You can choose not to be in this study.

**Will anyone know I am in the study?**
We won't tell anyone you took part in this study. When we are done with the study, we will write a report about what we learned. We won't use your name in the report.

**What if I do not want to do this?**
You don't have to be in this study. It's up to you. If you say yes now, but change your mind later, that's okay too. All you have to do is tell us.

Be sure to ask **Amanda Hunsaker** to tell you more about anything that you don't understand. My e-mail is Amanda.hunsaker@nebo.edu.

If you want to be in this study, please sign and print your name.


Name (Printed): _____ Signature: _____ Date: _____

Parental Permission for Control Group

# Parental Permission for a Minor

**Introduction**
My name is Amanda Hunsaker. I am a graduate student from Brigham Young University. I am conducting a research study about how being a peer tutor can affect a student's attitude toward people with disabilities. I am inviting your child to take part in the research because (he/she) is registered to be in a class of 8-9th graders who are not registered for a peer tutoring class.

**Procedures**
If you agree to let your child participate in this research study then:

Your child will be asked to complete a 36 question paper questionnaire at the beginning and end of their 1st semester that takes less than 20 minutes to complete. The questionnaire will be given in their regular math or English class and there will be no outside work.

**Risks**
There are minimal risks. There may be some discomfort caused by being asked some of the questions. Your child may answer only those questions that your child wants to, or you child may stop the entire process at any time without affecting his or her standing in school or grades in class.

**Confidentiality**
The research data will be kept in a locked cabinet and only the researcher will have access to the data. At the conclusion of the study, all identifying information will be removed and the data will be kept in a locked cabinet or office.

**Benefits**
There are no direct benefits for your child's participation in this project. The results of the research could help more children in the future.

**Compensation**
There will be no compensation for participation in this research.

**Questions about the Research**
Please direct any further questions about the study to **Amanda Hunsaker** at **Amanda.hunsaker@nebo.edu**. You may also contact **Gordon Gibb** at **gordon_gibb@byu.edu**, or 801-422-4915.

Questions about your child's rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461 or send emails to irb@byu.edu.

You have been given a copy of this consent form to keep.

**Participation**
Participation in this research study is voluntary. You are free to decline to have your child participate in this research study. You may withdraw you child's participation at any point without affecting your child's grades or standing in school.

Child's Name: _____

Parent Name: _____

Signature: _____

Date: _____

Parental Permission for Peer Tutors

# Parental Permission for a Minor

**Introduction**
My name is Amanda Hunsaker. I am a graduate student from Brigham Young University. I am conducting a research study about how being a peer tutor can affect a student's attitude toward people with disabilities. I am inviting your child to take part in the research because he or she is registered to be a peer tutor this school year.

**Procedures**
If you agree to let your child participate in this research study then:

Your child will be asked to complete a 36 item questionnaire on paper at the beginning and end of their peer tutoring semester that takes less than 20 minutes to complete.  The questionnaire will be given in their peer tutoring class and there will be no outside work.

**Risks**
There are minimal risks. There may be some discomfort caused by being asked some of the questions. You child may answer only those questions that your child wants to, or your child may stop the entire process at any time without affecting his/her standing in school or grades in class.

**Confidentiality**
The research data will be kept in a locked cabinet and only the researcher will have access to the data. At the conclusion of the study, all identifying information will be removed and the data will be kept in a locked cabinet or office.

**Benefits**
There are no direct benefits for your child's participation in this project. The results of the research could help other children in the future.

**Compensation**
There will be no compensation for participation in this project.

**Questions about the Research**
Please direct any further questions about the study to **Amanda Hunsaker** at **Amanda.hunsaker@nebo.edu**. You may also contact **Gordon Gibb** at **gordon_gibb@byu.edu**, or 801-422-4915.

Questions about your child's rights as a study participant or to submit comment or complaints about the study should be directed to the IRB Administrator, Brigham Young University, A-285 ASB, Provo, UT 84602. Call (801) 422-1461or send emails to irb@byu.edu.

You have been given a copy of this consent form to keep.

**Participation**
Participation in this research study is voluntary. You are free to decline to have your child participate in this research study. You may withdraw you child's participation at any point without affecting your child's grades or standing in school.

Child's Name:  _____

Parent Name:  _____

Signature:  _____

Date:  _____

**APPENDIX C:  Instruments**

Teacher Script at the Time of Survey:

One of the teachers in our district wants to learn about what boys and girls your age think about people with disabilities. In this questionnaire you will find questions about what you think and feel about people with disabilities. The children I have described to you go to special education classes in your school. You will fill out the top part with your name, what grade you are in, your school, and if you are a boy or a girl. Then you will fill out the questions. Put an X in the box that is the most like how you feel.

Chedoke-McMaster Attitudes Toward Children with Disabilities

Your name_____     School Name _____

My age          My grade          Girl     Boy

**Yes  No   I have a friend with disabilities.**
**Yes  No   I have a relative with disabilities.**
**Yes  No   I knew someone with disabilities in my elementary school.**
**Yes  No   I know someone with disabilities in this school.**
**If yes, how long have you known the person with disabilities? _____**

| **Please mark a box for each question** ➤ | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| 1.  I wouldn't worry if a child with disabilities sat next to me in class. | | | | | |
| 2.  I would not introduce a student with disabilities to my friends. | | | | | |
| 3.  Students with disabilities can do lots of things for themselves. | | | | | |
| 4.  I wouldn't know what to say to a student with disabilities. | | | | | |
| 5.  Students with disabilities like to play. | | | | | |
| 6.  I feel sorry for students with disabilities. | | | | | |
| 7.  I would stick up for a student with disabilities who was being teased. | | | | | |
| 8.  Students with disabilities want lots of attention from adults. | | | | | |
| 9.  I would invite a student with disabilities to my birthday party. | | | | | |
| 10.  I would be afraid of a student with disabilities. | | | | | |
| 11.  I would talk to a student with disabilities I didn't know. | | | | | |
| 12.  Students with disabilities don't like to make friends. | | | | | |
| 13.  I would like having a student with disabilities live next door to me. | | | | | |
| 14.  Students with disabilities feel sorry for themselves. | | | | | |
| 15.  I would be happy to have a student with disabilities for a friend. | | | | | |
| 16.  I would try to stay away from a student with disabilities. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 17.  Students with disabilities are as happy as I am. | | | | | |
| 18.  I would not like a student with disabilities as a friend as much as my other friends. | | | | | |
| 19.  Students with disabilities know how to behave properly. | | | | | |
| 20.  In class I wouldn't sit next to a student with disabilities. | | | | | |
| 21.  I would be pleased if a student with disabilities invited me to his house. | | | | | |
| 22.  I try not to look at someone who has a disability. | | | | | |
| 23.  I would feel good doing a school project with a child with disabilities. | | | | | |
| 24.  Children with disabilities don't have much fun. | | | | | |
| 25.  I would invite a child with disabilities to sleep over at my house. | | | | | |
| 26.  Being near someone who has a disability scares me. | | | | | |
| 27.  Children with disabilities are interested in lots of things. | | | | | |
| 28.  I would be embarrassed if a student with disabilities invited me to his birthday party. | | | | | |
| 29.  I would tell my secrets to a student with disabilities. | | | | | |
| 30.  Students with disabilities are often sad. | | | | | |
| 31.  I would enjoy being with a student with disabilities. | | | | | |
| 32.  I would not go to a student with disabilities house to play. | | | | | |
| 33.  Students with disabilities can make new friends. | | | | | |
| 34.  I feel upset when I see a student with disabilities. | | | | | |
| 35.  I would miss recess to keep a child with disabilities company. | | | | | |
| 36.  Students with disabilities need lots of help to do things. | | | | | |

**APPENDIX D: Figures and Tables**
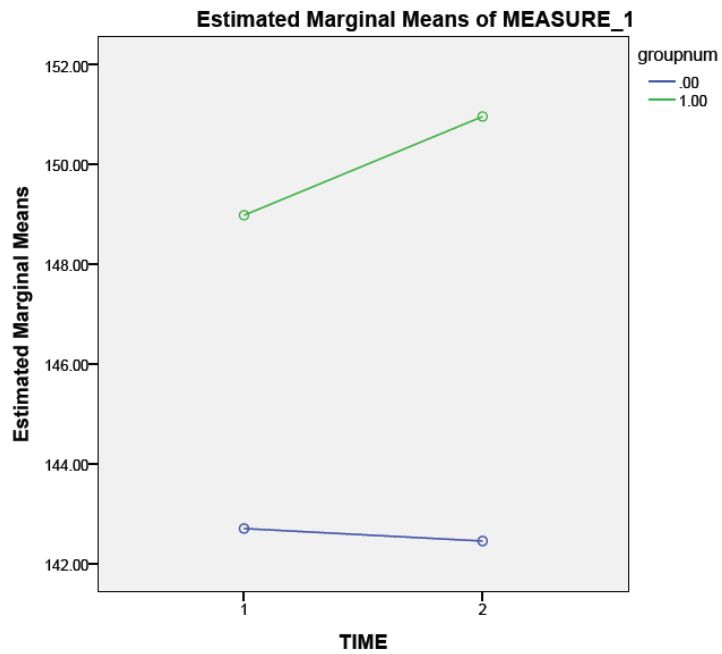


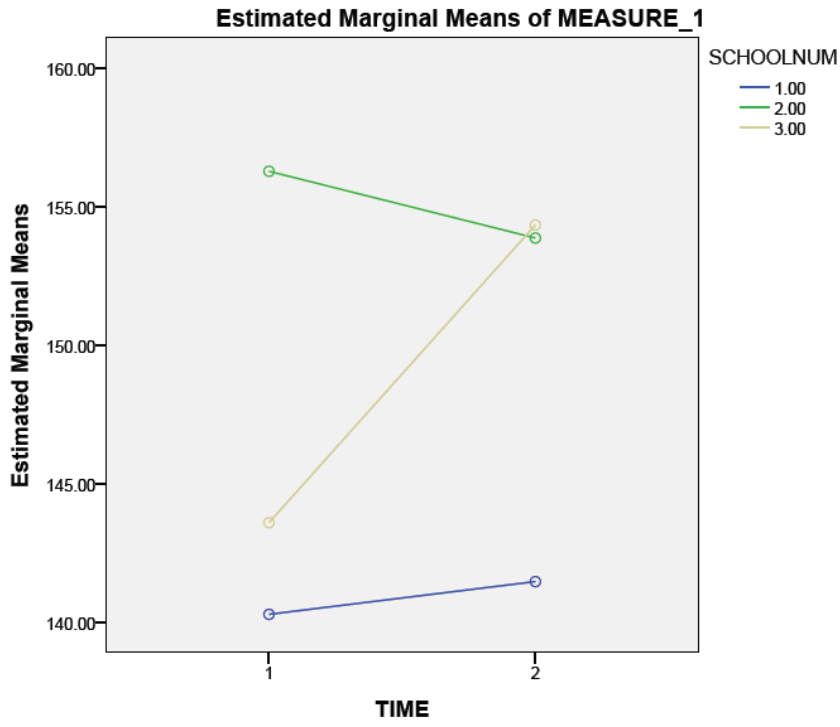*Figure 1.* Control group vs. treatment group in pre- and post- survey scores (.00 = control; 1.00 = treatment)

*Figure 2.* Scores for schools 1-3 on the pre- and post- surveys

Table 1

*Demographic Information*

| Demographic | School 1 | School 2 | School 3 | Total |
|---|---|---|---|---|
| # of Treatment Participants | 16 | 31 | 23* | 70 |
| # of 7th graders | 3 | 0 | 6 | 9 |
| # of 8th graders | 10 | 23 | 11 | 44 |
| # of 9th graders | 3 | 8 | 4 | 15 |
| # of boys | 3 | 8 | 4 | 15 |
| # of girls | 13 | 23 | 19 | 55 |
| # of students with friends  with disabilities | 11 | 22 | 13 | 46 |
| # of students with a relative with disabilities | 8 | 17 | 11 | 36 |
| # of students who knew someone in their Elementary school with disabilities | 13 | 26 | 17 | 56 |
| # of students who know someone in their Junior High with disabilities | 13 | 28 | 15 | 56 |
| # of Control Participants | 15 | 17 | 0 | 32 |
| # of 7th graders | 0 | 0 | 0 | 0 |
| # of 8th graders | 15 | 0 | 0 | 15 |
| # of 9th graders | 0 | 17 | 0 | 17 |
| # of boys | 6 | 10 | 0 | 16 |
| # of girls | 9 | 7 | 0 | 16 |
| # of students with friends  with disabilities | 11 | 12 | 0 | 23 |
| # of students with a relative with disabilities | 10 | 6 | 0 | 16 |
| # of students who knew someone in their Elementary school with disabilities | 11 | 13 | 0 | 24 |
| # of students who know someone in their Junior High with disabilities | 12 | 13 | 0 | 25 |

*Note: Two students did not put their age or grade

Table 2

*Have a Friend with a Disability t-test*

| | | | t-test for Equality of Means | | |
|---|---|---|---|---|---|
| | | | | | 95% Confidence |
| | | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower |
| PRETOT | Equal variances assumed | .003 | -10.18923 | 3.26176 | -16.68842 |
| | Equal variances not assumed | .002 | -10.18923 | 3.12649 | -16.44983 |

Table 3

*Knows Someone at the Jr. High with a Disability t-test*

| | | t-test for Equality of Means | | | 95% Confidence |
| | | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower |
|---|---|---|---|---|---|
| PRETOT | Equal variances assumed | .035 | -8.85023 | 4.12029 | -17.06010 |
| | Equal variances not assumed | .035 | -8.85023 | 3.91042 | -16.99387 |

Table 4

*Knew Someone at the Elementary School with a Disability t-test*

|  |  | t-test for Equality of Means | | | 95% Confidence |
|  |  | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower |
| --- | --- | --- | --- | --- | --- |
| PRETOT | Equal variances assumed | .680 | -1.75806 | 4.24188 | -10.21019 |
|  | Equal variances not assumed | .625 | -1.75806 | 3.55530 | -9.08772 |

Table 5

*Have a Relative with a Disability t-test*

| | | t-test for Equality of Means | | | 95% Confidence |
|---|---|---|---|---|---|
| | | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower |
| PRETOT | Equal variances assumed | .286 | -3.51667 | 3.27172 | -10.03571 |
| | Equal variances not assumed | .286 | -3.51667 | 3.27294 | -10.03954 |

Table 6

*Sex t-test*

|  |  | t-test for Equality of Means | | | |
|  |  |  |  |  | 95% Confidence |
|  |  | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower |
| PRETOT | Equal variances assumed | .310 | -3.48828 | 3.41588 | -10.29458 |
|  | Equal variances not assumed | .305 | -3.48828 | 3.36830 | -10.23593 |