THE INFLUENCE OF VIDEO AND PEER TUTORING ON ATTITUDES OF
HIGH SCHOOL STUDENTS TOWARDS
PEERS WITH DISABILITIES

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Family Life/Family and Human Development

Approved:

UTAH STATE UNIVERSITY
Logan, Utah
1999
ABSTRACT

The Influence of Video and Peer Tutoring on Attitudes of High School Students Towards Peers with Disabilities

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This study measured the effectiveness of watching a motivational videotape and completing one semester of peer tutoring on changing high school students' attitudes towards their peers with disabilities. Attitudes were measured with the Scale of Attitudes Toward Disabled Persons (SADP), administered to classrooms in two randomly selected high schools before and after viewing the video. The SADP was administered to a different sample of students before and after completing one semester of tutoring peers with disabilities. Peer tutors also completed one-page weekly journals. Responses from all participating students were compared between the pre- and postassessments using paired t tests.

Seven attitudinal scales were derived from a factor analysis of the 24 items that compose the SADP. Two of the subscales (self-determination and community) were statistically significant, both in a positive direction for the treatment groups. The self-
determination subscale assesses attitudes about whether people with disabilities are competent. The community subscale assesses attitudes toward group homes in residential areas. Results from the videotape treatment group only were similar, with statistical significance for the same measures, while with the peer tutor group, statistical significance was found only with self-determination.

Two questions were included on the SADP about intentions to peer tutor. After participating in the videotape treatment, the percentage of students willing to peer tutor increased, the number of students who were not willing to peer tutor decreased, while the students who were ambivalent stayed about the same. Females were found to be more accepting of people with disabilities, scoring higher than males on positive attitudinal measures and lower on most negative measures.

The peer tutor journals provided a more in-depth examination of student attitudes. Peer tutoring increased comfort levels around people with disabilities for some students. Some students felt better about themselves. Several tutors reported that they became friends with the people they were tutoring. A few students expressed frustration with the person they were tutoring. Others wrote comments about how their perceptions of what people with disabilities can do changed positively.
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CHAPTER I
INTRODUCTION

Antonak (1988) reported that the investigation of attitudes toward individuals with disabilities has been a topic for researchers for more than 50 years. The importance of this topic has not diminished because of the necessity of learning to accept, learn, work, and live with people with diverse beliefs, ethnic backgrounds, and abilities.

America was founded on the principles of equality and justice. Unfortunately, reality has not lived up to these constitutional promises for many American ethnic groups, women, or persons with disabilities. As America gradually recognized the equal status of Native Americans, African Americans, and women, legislation was introduced that mandated the right to vote, obtain an equal education, receive equal consideration for employment and promotions, and partake of public services.

Social integration of individuals with disabilities has lagged behind racial minorities and women because of economic, physical, architectural, and attitudinal barriers (Clogston, 1989). The Education for All Handicapped Children Act (now retitled the Individuals with Disabilities Education Act or IDEA) was signed into law in 1975. IDEA guarantees a free and appropriate education in the least restrictive environment for all students with disabilities between the ages of 3 and 21 (Ysseldyke & Algozzine, 1990). Passage of the Americans with Disabilities Act (ADA) was even more recent, in 1992. The ADA finally guaranteed individuals with disabilities equal
rights in employment, public services, accommodations, transportation, and telecommunications.

Even though legislation mandates equal access to the benefits of society, laws alone cannot guarantee inclusion (Shapiro, 1993). As children and adults with disabilities attempt to participate in educational, employment, recreational, and social activities, attitudes and acceptance become increasingly important. Attitudes within American society must change for legislation and regulations to be effective (Smart, Smart, & Eldredge, 1993). Litigation is often an expensive recourse to enforce inclusion and accessibility when people sustain outdated, paternalistic, and negative attitudes towards individuals with disabilities.

In the 1994-95 school year, there were 5,439,626 children and youth aged 3-21 served by special education programs across the nation. The 5-year trend (90-91 through 94-95) of students with disabilities reveals an increase of 12.7%. There has been an even larger increase (44%) of students receiving special education services since the beginning of the program in 1975 (U.S. Department of Education, 1996).

Shapiro (1993) cited data from the U.S. Department of Education that 67% of special education students are still in separate schools, classes, and resource rooms. For 1993-94, special education placement breaks down as follows: 43.4% of students with disabilities ages 6-21 were in regular classrooms, 29.5% were in resource rooms, 22.7% were in separate classes, 3.1% were in separate schools, 0.7% were in residential facilities, and 0.6% were homebound or in hospital placements (U.S. Department of Education, 1996).
The number of children with disabilities being educated in regular schools and classrooms will continue to increase because of the above-mentioned legislation, the influence of parents and advocates, and research demonstrating positive benefits for both students with and without disabilities. Indeed, national figures show that the percentage of students with disabilities educated in regular classrooms has increased while the percentage of students in resource rooms has decreased over the past several years (U.S. Department of Education, 1996). However, even though children with disabilities attend regular schools and classrooms, they may still be socially isolated (Bauer, Campbell, & Troxel, 1985).

One of the limitations of IDEA is that provisions for preparing students without disabilities to accept children with disabilities are nonexistent (Rizzi, 1984). Acceptance and socialization of students with disabilities may be hindered by the negative perceptions of other students. In addition, students may not know how to act around a person who is blind, a person who communicates through an electronic device, or a person who uses a wheelchair. Therefore, contact is often avoided.

Teachers may also hold negative perceptions about students with disabilities. Often regular education teachers do not receive adequate preparation on how to deal with, and adapt instruction for, students with disabilities. Consequently, teachers may feel apprehensive about including children with disabilities in their classrooms. Evidence suggests that many classroom teachers perceive themselves as unable to meet the instructional and social needs of students with disabilities (Harper, Maheady, & Mallette, 1994). Many educators believe that accommodations are expensive and
difficult. In addition, accommodations may cause problems that are troublesome to resolve (Blackstone, 1990).

However, there are simple and reasonable accommodations that can increase instructional effectiveness for all learners, but they may require additional effort. The inclusion of learners with disabilities in instructional settings not only makes materials more marketable, but also helps meet the requirements of disability legislation. In addition, instructional accommodations and inclusion for individuals with disabilities help provide them with the necessary experiences and opportunities for success (Menlove & Hammond, 1998).

Harper et al. (1994) noted that inclusion addresses both social assimilation and academic learning. Until the IDEA and ADA are fully implemented, many individuals with disabilities may not have the opportunity to receive an education in regular classrooms. Inclusion is important if students are to cultivate needed friendships, learn social skills, and develop and attain educational, employment, and familial goals. Research has shown that when students with disabilities are appropriately educated in inclusive environments, both students with disabilities and students without disabilities benefit socially and academically (U.S. Department of Education, 1996).

Even though inclusion in regular classrooms is probably the most effective way to change attitudes and promote interaction and friendship with students with disabilities, there are other methods. Ways to increase contact may also include team projects, teacher modeling, and peer tutoring. Information and training
materials about people with disabilities can be disseminated in different formats such as oral presentations, discussions, disability simulations, written articles, and videotapes. This study assessed the effects of viewing a motivational videotape about peer tutoring students with disabilities, and the effects of completing one semester of peer tutoring students with disabilities, on attitudes towards individuals with disabilities among high school students.

Definition of Disability

A person with a disability is defined under IDEA as one who is mentally retarded, hard of hearing, deaf, speech impaired, seriously emotionally disturbed, visually disabled, orthopedically impaired, or other health impaired, or with specific learning disabilities, who by reason of the disability requires special education and related services. Approximately 12% of the school-age population fit this definition (Rothstein, 1990). According to the ADA, the term disability means, with respect to an individual:

1. a physical or mental impairment that substantially limits one or more of the major life activities of such individual;
2. a record of such an impairment; or
3. being regarded as having such an impairment.

The above definition is widely accepted as a general definition of disabilities. However, there are more specific definitions for particular disability programs.
Definition of Attitudes

Antonak and Livneh (1988) defined attitudes as a descriptive concept with cognitive, affective, and behavioral components which are not directly observable or measurable. Shaver, Curtis, Jesunathadas and Strong (1989) define attitudes as interrelated beliefs and feelings that predispose a person to act in certain ways with cognitive, affective, and/or behavioral components. Gagne (1985) described attitudes as internal states that influence the individual's choices of personal actions towards some category of persons, objects, or events. Eagly and Chaiken (1998) agree that attitudes are an internal state, or a psychological tendency, that are expressed by evaluating an entity with varying degrees of disfavor or favor. Indeed, the evaluations we practice everyday influence and determine our actions.

Disability Terminology

Attitudes may be subconsciously shaped by language (Longmore, 1985). The words we use have changed to reflect more current philosophies. For example, disability is the preferred term. Handicaps are viewed as barriers created by the environment, not by a disability. When referring to a person, "handicap" is no longer generally acceptable, nor is the word "special." "Special" means that someone or something is given unusual treatment because of being uncommon (Stein, 1980), inaccurately implying that people with disabilities need to be set apart from the rest of the world population rather than included in society. When referring to a person with a
disability, it is preferable to emphasize the person first, not the disability, as in "person with a disability," or "people who are blind," rather than "the blind." Person-first terminology puts the emphasis on the human being first, and the disability second. Lumping people into a stigmatized, uniform group brings attention to the disability while obscuring other individual personal characteristics, contributing to the linguistic reinforcement of prejudice (Longmore, 1985).

The guiding principle, according to the fourth edition of the American Psychological Association Publication Manual, is to maintain the integrity of people as human beings. People with disabilities actively participate in every aspect of society including employment, politics, community service, and familial and leisure activities. Their universal involvement should be reflected in the language we choose to use (Hammond et al., 1998).

Problem Statement

As U.S. Department of Education (1996) figures show, increasing numbers of students with disabilities are being educated in regular classrooms and schools across the nation. Educational inclusion is important for students with disabilities to develop social, psychological, and academic capabilities. While inclusion of individuals with disabilities is relatively recent, a general lack of understanding and acceptance of individuals with disabilities still exists. Teachers and students may not understand, and be prepared to interact with, students with disabilities. Because of their lack of preparation and experience, regular teachers and students may have negative attitudes
towards students with disabilities, resulting in avoidant behavior. In addition, negative attitudes towards students with disabilities may further hinder their social and academic achievement, resulting in low self-image and self-confidence (Brummel, 1984). Many individuals with disabilities believe that biased attitudes are their greatest barrier to full inclusion in society (Donaldson, Helmstetter, Donaldson, & West, 1994).

Attitudes play a fundamental role in the critical choices people make not only for themselves, but also for their families, friends, and nations (Petty & Wegener, 1998). Attitudes determine whether people with disabilities receive fair opportunities for success in community, employment, and educational settings. Before successful inclusion can occur in educational settings, regular students need to develop an understanding and acceptance of their peers with disabilities. This study will examine two different approaches to positively change attitudes and increase acceptance levels towards students with disabilities.

Purpose and Objectives

The purpose of the study was to determine the effectiveness of watching a motivational videotape and completing one semester of peer tutoring on changing high school students' attitudes towards their peers with disabilities. This purpose was achieved by comparing scores from the Scale of Attitudes Toward Disabled Persons (SADP; see Appendix B for a copy of the SADP) administered before viewing the videotape, after viewing the videotape, and before and after completing one semester of peer tutoring. To collect additional data to measure the effectiveness of the treatment,
two questions regarding intention and commitment to peer tutor were added to the SADP as a behavioral measure. In addition, one-page weekly journals concerning attitudes towards students with disabilities were completed by the students who were involved in peer tutoring.

Specifically, the study was designed to answer the following four primary research questions:

1. What are the current attitudes of high school students towards students with disabilities?

2. Does motivational videotape provide an effective method to change high school students' attitudes?

3. Does completing one quarter of peer tutoring students with disabilities change high school students' attitudes toward their peers with disabilities?

4. In what way are attitudes towards students with disabilities related with gender?
CHAPTER II
REVIEW OF THE LITERATURE

Education of Students with Disabilities

According to the 1970 U.S. Census, there were 750,000 American children between the ages of 7 and 13 who did not attend school. Marian Wright Edelman, founder and president of the Children's Defense Fund, assumed that they were Black children who were not allowed to attend segregated schools. She was surprised to discover that they were children with disabilities, including those with mental retardation, cerebral palsy, spina bifida, or paralysis. These children were rejected because their local school administration claimed the school was unable to educate them. Edelman's detective work helped launch a parents campaign to support and pass IDEA (Shapiro, 1993).

The normalization movement also helped contribute to the passage of IDEA. This legislation states that all children between the ages of 3 and 21 have the right to an appropriate free public education. It also clearly decrees that children with disabilities must be educated in the least restrictive environment, and to the maximum extent possible, with the normal peer group (Rizzi, 1984).

Developments contributing to the advancement of special education include standardized intelligence tests and other reliable educational assessment instruments, new professional fields such as pathology and educational psychology, medical advances and treatment of previously misunderstood diseases such as polio and
epilepsy, and developments in technology for persons with disabilities such as electronic communication aids and artificial limbs (Weisenstein & Pelz, 1986). These developments made it possible for many individuals, even those with severe disabilities, to attend school in regular classrooms and to live and work independently for the first time.

Between 1977 and 1989, the number of people living in large institutions decreased 42%, to 88,112, the lowest number since 1934. These individuals often work in competitive employment and are integrated into the community (Wright & King, 1991). Even though there have been considerable societal changes, inclusion of children and adults with disabilities has not been embraced by a large number of teachers, employers, and community members.

Inclusion of Students with Disabilities

Some research suggests that children with disabilities do not always benefit academically or socially from being placed in regular classrooms (Harper et al., 1994). Special education classes are smaller, more individualized, and easier with competition only between students of similar abilities. There are views that children in a special school are better off because they are not exposed to teasing, exclusion, and feelings of inferiority (Schaffner & Buswell, 1993). Special schools may offer specialized services such as daily speech therapy, physical therapy, and medical assistance. One principal suggests that if children prevent others from learning and/or if they have intensive medical issues, they could be better off in a school for students with
disabilities (Kapos, 1998). Despite their concerns, inclusion is still the choice the majority of parents make for their children.

Many parents are beginning to insist on an equal education, including having their child placed in the same classrooms with their peers (Shapiro, 1993). Proponents of inclusion would argue that evading challenges will not make negative reactions go away. For stereotypes to disappear, the contacts between persons with disabilities and nondisabled individuals must begin in childhood (Weisenstein & Pelz, 1986).

Inclusive educational programs dramatically increase the proximity of students with and without disabilities during the day (Abery, 1991). Inclusion is purported to benefit most, if not all, students. Students without disabilities learn to appreciate and accept individual differences. They also learn about the abilities of their peers with disabilities (Schaffner & Buswell, 1993). In addition, students without disabilities learn empathy, and may develop a sense of responsibility for helping classmates with disabilities (Shapiro, 1993). Peck, Donaldson, and Pezzoli (1990) found that students who developed relationships with their peers with disabilities report a number of positive benefits, including improvements in self-concept, growth in social cognition, increased tolerance levels, and reduced fear of differences. Another recent study demonstrates similar results. Students who developed relationships with classmates with disabilities were found to have increased responsiveness to others, growth in personal development, increased tolerance and appreciation of diversity, and increased status with peers (Helmstetter, Peck, & Giangreco, 1994).
Students with disabilities benefit from daily classroom contact with students without disabilities. Classroom inclusion is reported to increase academic success, social contact, and acceptance from their peers (Schaffner & Buswell, 1993). It is thought that education and inclusion can make the difference between a life of independence and productivity and one of unemployment and dependence (National Council on Disability, 1989). McDonnell and Hardman (1989) found that a number of studies show that educational outcomes and subsequent community success for children with disabilities are usually significantly improved in integrated settings.

One of the most beneficial aspects of an inclusive education for learners with disabilities is learning the academic, social, and life skills that can lead to independence, employment, and full participation in society. Perhaps one of the most beneficial aspects of inclusion for students without disabilities is learning that disabled students have similar abilities, values, and goals, which can lead to the rejection of stereotypical, negative attitudes towards them.

Peer Relationships

Peer relationships are important so children can learn socialized values and appropriate ways to control aggressive impulses. Friendships enhance self-esteem, feelings of emotional security, and a sense of belonging. Children learn sex role identity, empathy, and social skills through communication and interaction with their friends and peers. Friends also help shape educational goals and attitudes (Weisenstein & Pelz, 1986).
Evans, Salisbury, Palombaro, Berryman, and Hollywood (1992) found that social acceptance and interaction are not associated independently with a child's cognitive functioning. Attaining social acceptance is more affected by the environment in which educational services are received (U.S. Department of Education, 1996). Interaction between students with and without disabilities is possibly the best method to create friendships, increase understanding of differences, and foster personal growth among both groups of students (Donaldson et al., 1994). Students with disabilities may not have the opportunity to overcome negative attitudes and develop the friendships and peer relationships they need in separate schools and classrooms.

One of the most serious problems for adolescents with disabilities is their lack of friendships (Weisenstein & Pelz, 1986). Peer relationships are important to children, particularly as they enter adolescence and retreat from the influence of parents (Cassidy & Asher, 1992; Topping, 1988). It is particularly difficult for adolescents with disabilities to develop friendships because many students with disabilities are educated in different classrooms. Even when students with disabilities are educated in a regular classroom, they may be more or less ignored by their peers. A recent survey of 1,137 middle and high school students found that 68% of respondents felt it would be difficult to be a friend with a student with severe disabilities because they would not know what to say or do (Hendrickson, Shokoohi-Yekta, Hamre-Nietupski, & Gable, 1996). It is easy for students to avoid contact and friendship with their peers with disabilities to avoid what they perceive as an awkward situation.
Students with disabilities may lack friendships because their peers view them in terms of their differences rather than in terms of their common interests and goals (Donaldson et al., 1994). Students with disabilities experience fewer opportunities to practice and refine their social skills, which are predictive of later adjustment (Hendrickson et al., 1996). A lack of adolescent friendships is predictive of social incompetence during adulthood (Claes, 1992; East, Hess, & Lerner, 1987; Parker & Asher, 1987; Reisman, 1985; as cited in Akers, 1996).

The Influence of Media

Beliefs and attitudes may be strongly influenced by mass media. Media provides the opportunity for observational learning in the form of modeling in which someone is influenced by the actions of a person or group of people (Gagne, 1985; Gagne, Briggs, & Wager, 1988). Adolescents may be especially vulnerable to modeling and observational learning through media both because of their impressionable age, and because it is reported that young people spend more time watching television and movies.

An accurate reflection of our diverse society includes a balanced representation of culture, gender, age, and ability. The realization of the need to include ethnic minorities and women has enhanced educational opportunities, hiring practices, recreational programs, and inclusion in ads, movies, television, and video.

The accuracy of portrayal in any medium is dependent on the knowledge and attitudes of the creators. Portrayal of people with disabilities has generally been
plagued by inaccurate stereotypes, often based on depictions in classical literature (Elliott & Byrd, 1982). Historically, fund raising campaigns, such as the Jerry Lewis annual telethon, have portrayed individuals with disabilities as pitiful, weak, dependent people in need of protection, care, and the donation of resources by nondisabled persons (Brolley & Anderson, 1990).

Any stereotype that implies people with disabilities cannot maintain responsible employment, have high incomes, enjoy a happy marriage, be effective parents, or develop friendships is inaccurate, and yet these stereotypes are pervasive (Meyerson, 1988). Watson (1993) reported common stereotypes which include: (a) people with physical disabilities also have mental disabilities, (b) individuals with disabilities are courageous for merely living, (c) disabled people need to be rescued, and (d) persons with disabilities are always consumed with their disability. These and other stereotypes contribute to an unrealistic portrayal in the media and reinforcement of negative attitudes from the viewers.

Positive, accurate, and realistic portrayal has the potential to change public perception of individuals with disabilities and foster acceptance and understanding. A recent survey by Louis Harris and Associates (1991) found that recent movies such as Rainman, and television programs about disability issues including Life Goes On, positively changed the way the viewers felt about people with disabilities. Individuals with disabilities need positive media visibility as an influential social, economic, and political force to allow them to compete effectively in education, employment, transportation, housing, and social opportunities (Ruffner, 1990). As adolescents seem
to be open to observational learning through media, specifically video, this was one of the techniques chosen for possible attitude change for purposes of this study.

**Peer Tutoring**

Numerous studies have reported positive benefits from peer tutoring on both the tutor and tutee, including improved academic performance, motivation, attitude towards school, and interpersonal skills (Horne, 1988; Jenkins & Jenkins, 1981). Topping (1988) reported that peer tutoring improves attainment in the tutored subject area by both tutor and tutee. Tutors develop a sense of pride and accomplishment. In addition, they may learn trust, feel more self-confident, and acquire a sense of adequacy. The tutee's self-esteem is also likely to be enhanced. Harper et al. (1994) found that peer tutoring increases students' involvement in learning by shifting responsibility and empowerment to the learners, versus the teachers, as the tutors become successfully involved.

Curtis and Shaver (1992) reviewed 42 studies on modifying attitudes towards persons with mental retardation. The treatment in three of these studies was peer tutoring. Two of the studies resulted in positive attitudinal change, while the third showed negative change. The authors concluded that further studies were warranted. Scruggs and Richter (1985) examined 24 studies of tutoring interventions with students with learning disabilities. Many reported academic gains both for tutor and tutee, some reported improved social or emotional behavior for tutor or tutee, while in others the results were equivocal. Several of these studies report that tutors often gain as much or
more than tutees by learning responsibility, increasing social skills, enhancing self-esteem, and improving attitudes toward school. The one common denominator, regardless of the reported results, was that all of the studies favored the use of peer tutoring.

Attitude Change

Curtis and Shaver (1987) report that there have been hundreds of studies of changing attitudes towards individuals with disabilities since the 1950s. Antonak (1981) stated that the profound changes in special education and rehabilitation have intensified interest in the measurement of attitudes impacting the successful integration of people with disabilities into society. As mentioned previously, legislation including IDEA and ADA has resulted in a significant increase of participation by individuals with disabilities in society. However, acceptance of, and interaction with people with disabilities depends greatly on preconceived attitudes.

Formation of attitudes occurs as a result of experiences in the larger social and physical environments (Gagne, 1985). Attitudes towards persons with disabilities may be based on the amount of early contact with persons with disabilities, information, education, and media exposure (Eichinger, Rizzo, & Sirotnik, 1992). The literature on societal responses and treatment of people with disabilities suggests that attitudes are shaped by several crucial and interrelated factors, including the perceived cause of the disability, the perceived responsibility for the disability, the perceived threat of the
disability, the prevailing economic societal conditions, and the prevailing sociocultural milieu (Arokiasamy, Rubin, & Roessler, 1987).

Negative attitudes generally result in avoidance behaviors, while positive attitudes are expressed by approach behaviors (Eagly & Chaiken, 1998). If we accept this premise, then possibly the only way that children with disabilities will be accepted and welcomed on an equal basis in regular schools as classmates and friends, and consequently, people with disabilities will be accepted into society, is if attitudes towards them are generally positive.

Attitudes are hard to influence and slow to change. Attitude change is a complex process. A recent theory about the processes responsible for attitude change and the strength of those attitudes is called the Elaboration Likelihood Model (ELM) of persuasion (Petty & Wegener, 1998). According to this theory, there are four independent persuasion variables (source, message, recipient, and context) that impact attitude change. Source variables refer to the person(s) doing the persuasion or making the appeal. Source effects are influenced by the speaker's credibility, attractiveness/likableness, and power. Message effects relating to the communication itself include the relevance and importance of the message, whether the message generally agrees or disagrees with the recipient's beliefs, whether the message explicitly states the position or allows the recipients to draw their own conclusions, and whether the message makes statements or asks rhetorical questions. Message content features include the quality of the argument, the number or quantity of arguments, positive versus negative framing of arguments, emotional appeal versus reason or cognitive appeal, and whether the
message is balanced. Recipient variables refer to aspects of the individual such as gender, race, personality, intelligence, self-esteem, issue-relevant knowledge, and attitude accessibility. Context variables refer to distractions, whether the surroundings are pleasant or not, whether the message is repeated, if recipients are forewarned of the message content, and channel or message modality (Petty & Wegener, 1998).

According to this theory, information or other communications about people with disabilities with the intent to change attitudes need to consider the context where the treatment takes place, the characteristics of the recipient, the content of the message, the communicator's credibility, attractiveness/likableness, and power, and the way the message is framed, including its relevance and importance to the intended recipients.

Children and adolescents are probably the most effective and pliable age group through which to influence and change attitudes. Morrison and Ursprung (1990) reviewed literature on children's attitudes toward people with disabilities, and concluded that children's attitudes are flexible and impressionable. Attitude change programs may therefore have the most impact when introduced to children as the target group.

Attitude attributes and the modification of attitudes have been studied using several different methods. After completing an extensive review of the literature on modifying peer attitudes, Horne (1988) reports that programs which include both contact and information have usually been more successful in modifying attitudes than programs with only one component, but there are some studies with conflicting findings. Curtis and Shaver (1992) also found, after reviewing 42 attitudinal studies toward people with mental retardation, that information tends to be more effective with contact. However,
they also reported that contact was relatively effective as well. In a comprehensive review of 273 studies, Shaver, Curtis, Jesunathadas, and Strong (1987) report that the effects of attitude change techniques are often not large and contradictory.

Eichinger et al. (1992), in a study of 162 adults, found that the number of movies viewed about people with disabilities was significantly related to positive attitudes. In addition, women held more favorable attitudes than men. However, attitudes held by females may have been more positive than those held by males before the movies were viewed. Fiedler and Simpson (1987) reported that females had significantly more favorable attitudes toward individuals with disabilities, a finding that is substantiated by other researchers. Yuker (1988) reported that 20% of studies using the Attitude toward Disabled Persons Scale found women had more positive attitudes than men. However, in their review of 273 attitudinal studies towards persons with disabilities, Shaver et al. (1989) found little relationship between gender and attitude change.

Elementary students participated in a national multimedia disability awareness program (Hazzard & Baker, 1982). After completing the program, students were more knowledgeable, but no significant differences were found on their willingness to interact with peers with disabilities. The authors concluded that both information and actual contact may be necessary before attitudes are positively influenced. A more recent study of high school students who participated in a social studies unit about persons with disabilities with an emphasis on similarities indicated that students' attitudes were significantly improved and that there was an increase in the amount of contact students without disabilities had with their peers with disabilities. However, the
social studies unit included group discussion, videotapes or films, and active involvement of individuals with disabilities in the process (Donaldson et al., 1994).

Summary Regarding Interventions/Success of Interventions

Thousands of children with disabilities were not allowed to attend their neighborhood schools until legislation (IDEA) was passed in 1975. The past two decades have generated changes not only in education, but also in employment, housing, community involvement, and recreation for people with disabilities. The 1996 figures from the U.S. Department of Education show that while the percentage of students with disabilities educated in regular classrooms has increased over the past several years, there are still 67% of special education students educated in separate schools, classes, and resource rooms.

Inclusion is important if students are to cultivate needed friendships, learn social skills, and develop and attain educational, employment, and familial goals. Research shows that when students with disabilities are appropriately educated in inclusive environments, students with and without disabilities benefit socially and academically.

Inclusion is important, but unfortunately, inclusion alone may not be enough to positively change attitudes and increase acceptance of students with disabilities. Negative attitudes and perceptions of potentially awkward situations generally result in avoidance behaviors towards students with disabilities. Possibly the only way that children with disabilities will be accepted on an equal basis in regular schools as
classmates and friends, and consequently, people with disabilities will be accepted into society, is with generally positive attitudes.

Attitudes are complex and difficult to measure and slow to change. The Elaboration Likelihood Model of persuasion identifies a variety of variables including the source, message, recipient and context as influencing attitude change. Attitudes may be based on the amount of contact with individuals with disabilities, educational information, and media exposure. Generally the mass media has portrayed individuals with disabilities with pity or given them hero status. However, media portrayal is gradually becoming more realistic. Other than mass media, ways to change attitudes and increase contact with students with disabilities include peer tutoring, team projects, recreational activities, teacher modeling, and educational materials about people with disabilities such as oral presentations, group discussions, disability simulations, written articles, and videotape. Shaver et al. (1989) reviewed 273 primary research studies on modifying attitudes towards people with disabilities. Modification techniques included information, information plus contact, contact, vicarious experience, persuasive message, systematic desensitization, and positive reinforcement.

This study examines two different approaches, specifically peer tutoring and the use of an instructional, motivational videotape to positively change high school students’ attitudes and increase their acceptance levels towards students with disabilities. Attitudes determine whether people with disabilities receive fair opportunities for success. Before successful inclusion can occur, regular students need to develop an understanding and acceptance of their peers with disabilities.
CHAPTER III

METHODS

Sample

Considering the organizational structure of the school system and time constraints, it was not easy to gain the cooperation necessary for the planned procedures for this study. The population for this study consisted of the 28 Utah high schools with peer tutoring programs for students with disabilities. Among these 28 schools, 16 are located along the Wasatch Front (Logan to Provo). The sampling procedure began by assigning all Wasatch Front schools a number. A table of random numbers was then used to select schools. Of these 16 schools, 4 high schools were randomly selected, of which only 2 agreed to participate in the study. Four high schools were initially selected.

The Utah State Office of Education discouraged participation from School G because of their reported poor peer tutoring program and generally overall negative

Table 1

Initial Four Schools Selected for Participation in the Study

<table>
<thead>
<tr>
<th>Randomly selected schools</th>
<th>Replacement schools</th>
<th>Participant schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>E (treatment)</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>G (control)</td>
<td>T</td>
<td>S</td>
</tr>
<tr>
<td>S (treatment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V (control)</td>
<td></td>
<td>V</td>
</tr>
</tbody>
</table>
attitudes towards students with disabilities. The Utah State Office of Education cosigned a letter with Utah State University sent to the principals of the selected high schools (except G) endorsing the study and encouraging cooperation (Appendix E). The letter was followed by a telephone call to the principals. School T was randomly selected as a replacement school for G. However, School T had a new principal who was not willing to participate in this study because he wanted to gain the teachers' support and did not want to ask the teachers to do any more than necessary. School E principal reported that the entire school was relocating to another building and this was not a good time to participate in a study. School O was randomly selected as a replacement. However, the principal was uncooperative for unknown reasons (e.g., he lost the survey repeatedly, and would not return phone calls). Despite efforts to randomly select schools for this study, only two school principals agreed to allow their school to participate in this study, rather than four schools as originally planned. Therefore, control schools were not used. See Table 2 for selected school demographic characteristics. Details about sample sizes, and matched pre-post subsamples, are described in the data collection procedures section that follows.

Design

This study used a quasi-experimental design. Individual students and classrooms were not randomly selected nor assigned to groups. A two-group, pretest-posttest design was utilized as the basis for this quasi-experimental study. Borg and Gall (1989) stated that the one-group pretest-posttest design is most justified and
Table 2

Selected Demographic Characteristics for Videotape and Peer Tutoring Treatment High Schools

<table>
<thead>
<tr>
<th>Treatment</th>
<th>School S</th>
<th>School V</th>
<th>School B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>N = 332</td>
<td>(248 matched pre-posttests)</td>
<td>N = 213</td>
</tr>
<tr>
<td></td>
<td>Males = 48.7%</td>
<td>Females = 57.3%</td>
<td>Males = 57.8%</td>
</tr>
<tr>
<td></td>
<td>Age $M = 17.14$</td>
<td>Age $SD = .83$</td>
<td>Age $M = 17.22$</td>
</tr>
<tr>
<td>Peer tutor</td>
<td>N = 30</td>
<td>(17 matched)</td>
<td>N = 14</td>
</tr>
<tr>
<td></td>
<td>Males = 30.0%</td>
<td>Females = 70.0%</td>
<td>Males = 21.4%</td>
</tr>
<tr>
<td></td>
<td>Age $M = 17.40$</td>
<td>Age $SD = .97$</td>
<td>Age $M = 16.29$</td>
</tr>
</tbody>
</table>

appropriate when attempting to change a pattern that is stable, such as attitudes. This design is similar to a one-group pretest-posttest, with two treatments (watching the videotape--XVT and completing one semester of peer tutoring--XPT) and two groups used for comparison and replication purposes as illustrated by the following diagram:

School 1: 
R: O XVT O
School 2: 
R: O XVT O
School 1: 
O XPT O
School 3: 
O XPT O

Internal threats to validity, including history and maturation, cannot be controlled without a control group (Campbell & Stanley, 1963). Control for differential attrition
was facilitated by conducting the study within the selected schools. Given the notable
attrition, particularly in School V High School, pretest data for students who were
available for posttesting was compared for differences with those who were not. Pretest
sensitization may be likely. However, the effect of testing should influence both groups
in a similar fashion (Miller, 1986). Questionnaires with detailed instructions were used
to minimize experimenter expectancy and experimental confounds.

Data Collection Procedures

Students in social studies classes in each of the two schools were administered a
pretest, videotape treatment, and a posttest. Although randomly assigning one school
for treatment and one school as a control was considered, it was determined that using
the intervention in each school has the advantage of replicability. Entire classrooms in
schools were recruited, rather than individual students within the schools, for logistical
reasons.

One of the required high school courses, namely social studies, was selected.
Selecting a mandatory subject (social studies) provided some control for selectivity and
was preferable to selecting several classes from different courses. All classes, except
one, in each grade level of the selected school subject were included in the sample.

In addition, one special education classroom in one of the schools (School S) and
one additional school (School B) were selected as the sample from which to determine
the attitudes of high school students who participate in one semester of peer tutoring.
The special education classroom at School V was not used, as high school students
begin peer tutoring at the beginning of the year, not each semester. Peer tutors in these two selected high schools completed a pretest at the beginning of the semester and a posttest at the end of the semester for comparison purposes. In addition, during the tutoring experience, these students wrote briefly every week in a journal to record their experiences, feelings, and attitudes towards students with disabilities.

School S

The principal at School S was very cooperative, but he wanted to obtain approval through the county school district office. Several months were spent sending the district office documentation, leaving numerous messages, and waiting for their board to convene and grant approval (see Appendix F). Approval was conditionally given by the county school district (see Appendix G) after the survey was reviewed by another experienced principal and the parents of the students involved in the study were informed (see Appendix H). In the meantime, the cooperative principal retired and the new principal was reluctant to participate. After a meeting with county school district officials, the social studies teacher, and the researcher, the new principal finally agreed to allow teachers to administer surveys to 13 classrooms.

Classrooms during third hour were chosen because the students could take the test and watch the videotape instead of watching Channel One news, therefore missing less academic work than if administered during a different hour. The principal also said it would be less disruptive if the teachers administered the tests and videotapes, rather than the researcher. The principal informed the teachers about the study in a staff
meeting. Thirteen packets with surveys and teacher instructions were dropped off at the school.

The pretest questionnaires were administered by the classroom teachers on December 2 using detailed instructions prepared by the researcher (Appendix I). Teachers were instructed to read the same instructions to all students. The instructions emphasized that the questionnaire was not a test, and that there were no right or wrong answers. Teachers were asked to reassure students that scores would be reported in group form only, and that individual data would be completely confidential. If questions arose, teachers were instructed to respond with "Use your best judgment" or "Do what you think is best" (Borg & Gall, 1989). The participating teachers were instructed to provide standardized conditions in order to avoid introducing biases while administering the questionnaire and the videotape treatment. Thirteen videotapes and packets with the posttests and instructions were dropped off for administration on December 9. The peer tutoring (special education) classroom in School S also completed pre- and posttests administered by the teacher, as well as weekly peer tutor journals.

School V

After the principal gave conditional permission, the county school district office was contacted and permission was obtained to administer the study at School V. The principal assigned one teacher the task of administering the surveys. The teacher initially said that 12 to 14 classes would be available for testing. She preferred to
administer the pre- and posttests, as assigned by the principal, rather than the researcher. An appointment was made to meet with the teacher and drop off the pretests with instructions but she was not there at the appointed time. Because the school was not in the researcher's local area, the tests with instructions were left for her. She was contacted later by telephone and e-mail. The teacher agreed to administer the tests approximately a week apart in March. However, when the pretests were picked up later, only a few pretests were completed because of reported conflicts with registration for the following year. In addition, the pretests were not separated by classroom, as instructed (see Appendix J), which made matching (posttest) difficult. The posttests were dropped off with instructions (again she was not there at the appointed time), and contact was made through e-mail and telephone conversations. Consequently, there were many more students who completed the posttests than the pretests, and matching was difficult without classroom identification, as a number of students did not write their names.

The Videotape Treatment

This study originated because the Utah State Office of Education (USOE) wanted to develop a method to increase peer tutoring and inclusion in Utah schools. The researcher collaborated with USOE to produce a videotape targeted specifically for high school students. The researcher met with USOE staff to determine objectives, design content, establish instructional strategies, and develop the motivational videotape.
Attitude theorists emphasize the importance of the communicator in the process of attitude change (Gagne, 1985; Petty & Wegener, 1998). Exemplification of peer tutoring interactions and responses were determined to be one of the best ways to deliver the intended videotape message both visually and orally. Topics and questions for interviews, and needed visual peer tutor interactions were developed. The researcher directed the videotaping of all high school student peer tutors and tutees who were interviewed as well as "cover" shots of actual peer tutoring in a variety of high schools and settings. All the transcripts were then reviewed and organized by the researcher and USOE. The best interview segments and visualizations were chosen and storyboarded for editing.

Rhetorical questions were added because their use requires the viewer to think about the presented argument in order to address the question (Petty & Wegener, 1998). An adult narrator was not used because high school narrators conveying their "real" experiences and feelings are considerably more credible with their peers. They could arguably also be considered more attractive, "likable," and interesting than adults to this audience. High school students most likely communicate the message much more convincingly and effectively with the intended videotape audience.

The final treatment videotape consists of short statements by high school students who have experienced peer tutoring. The videotape presents rhetorical questions before each topic followed by statements for the first half of the videotape. The specific questions included in the videotape are as follows: Why should you try peer tutoring? What will your friends think? and Do you see a person's disability first?
The second half of the videotape presents the following statements: Peer tutoring changes attitudes! You can impact each other's lives. Peer tutoring--definitely do it. Try peer tutoring, your high school experience will never be the same. Each of the questions or statements is followed by short interview segments. The general content of the videotaped interviews from high school peer tutors and a few students with disabilities includes the fear and hesitations the students initially felt about students with disabilities and peer tutoring, what their friends thought when they peer tutored, the importance of seeing people first without focusing on their disabilities, how the students' attitudes changed after they peer tutored, how peer tutoring was a fun, positive experience, and why other students should try peer tutoring (see Appendix A for the full video script).

Measurement

Attitude Measurement

The dependent variable for this study was the attitudes of high school students towards students with disabilities. Attitude measurement attempts to convert behavior to an index that represents the attitude presumed to underlie behavior (Antonak, 1988). Attempting to evaluate and measure each individual's behavior within a large sample is time-consuming and logistically challenging. Investigations concerning disability attitudes require psychometrically sound instruments which are reliable, multidimensional, and flexible. These instruments must allow for differentiation in the definition, conceptualization, and measurement of attitudes (Antonak & Livneh, 1988).
The Scale of Attitudes Towards Disabled Persons (SADP) 24-item semantic-differential attitude subscale was selected for use in this study. Other instruments that were considered include the Voeltz Acceptance Scale measuring general attitudes towards people with disabilities. This subscale was not chosen for several reasons, including the three-option response format and the fact that most questions concern only students with mental retardation. Another existing available subscale that was not chosen is the Attitude Toward Disabled Persons Scale or the ATDP. This subscale has been widely used, although it lacks evidence of validity (Antonak & Livneh, 1988). In addition, the subscale does not measure as many domains as the SADP.

Antonak and Livneh (1988) reported that the SADP's content was formulated from reviews of the research literature on attitudes towards persons with disabilities and other published scales. In addition, open-ended interviews were conducted with experts in special education and rehabilitation. An initial pool of 176 items was reduced to 76 items. The 76 items were then evaluated by a panel of 10 experts. This resulted in the retention of 64 items, which were then randomly arranged in a questionnaire. The responses of 228 individuals were used to complete a series of item, scale, and factor analyses to reduce the number of items, and obtain estimates of internal consistency and "sound psychometric properties." This process yielded 30 items, which were arranged in a second questionnaire. Responses from a different sample of 225 individuals were used for similar scale reduction analyses resulting in the final 24-item version of the SADP. Additional analyses from new samples of high school students, college students, professionals, and conference participants ranging in age from 17 to 53 years,
with a mean age of 23.9, were conducted for the reliability, validity, and utility of the scale. Reliability analyses yielded Spearman-Brown corrected reliability coefficients ranging from .81 to .85, and alpha coefficients ranging from .88 to .91, indicating strong internal consistency (Antonak, 1981).

**Behavior Measurement**

Two questions regarding intention and commitment to be a peer tutor were included as a behavioral measure on the pretests and posttests. These questions were designed to determine if the students would like to try peer tutoring, and if so, how many hours per week they would be willing to spend peer tutoring.

Structured peer tutor journal questions asked students what activities were completed, how they felt about doing the activities, what their favorite experience was during the week, what activities they would recommend changing, whether they felt more comfortable around students with disabilities, and if yes, why, and whether their feelings about students with disabilities changed during the week, and if so, why (See Appendix C). Results from these journals were tabulated and analyzed as another measure of attitude change.

**Null Hypotheses**

Ho:1 There will be no change in attitudes towards people with disabilities as measured by the SADP among students who either view the peer tutor videotape or participate in peer tutoring.
Ho: 2 There will be no change in attitudes towards students with disabilities as measured by the SADP among students who complete one semester of peer tutoring as measured by the SADP.

Ho: 3 There will be no change in attitudes towards students with disabilities among students who view the peer tutoring videotape.

Ho: 4 There will be no change in future intentions to peer tutor students with disabilities as measured by a self-report questionnaire between students who view the peer tutor videotape and those who do not.

Ho: 5 There will be no gender differences in attitudes towards students with disabilities.

Ethical Considerations

Participation in this study was voluntary, as much as possible, for a classroom setting. For example, filling out the questionnaire did not make any difference in student grades. Names were required on pretests so that the respondents could be tracked and matched for the posttest comparisons, but names were not used for any other purpose. Confidentiality was assured. No harm, either psychologically or physically, resulted from watching the 10-minute videotape, completing the pretests and posttests, or peer tutoring and filling out weekly journals for a semester.

Parental consent letters were given to teachers to send home with students. The consent form contained written instructions that if parents did not want their child to
participate, to sign and return the form as soon as possible (see Appendix E). No parental forms were returned.

As this study required the assessment of attitudes of school students, this survey was submitted to the Utah State University Internal Human Subject Review Board (IRB) and the county school district offices. Approval was granted (see Appendix D).
CHAPTER IV
RESULTS

The results of a statistical examination of the data are presented in this chapter. Statistical analyses were completed to determine attitudinal differences towards individuals with disabilities between student groups and pre- and post-assessments.

Random sampling is a requirement for using statistical significance tests, although Borg and Gall (1989) state that nonrandomization does not necessarily justify the complete discontinuation of statistical significance testing in educational research. However, if used without randomization, these tests should be viewed with caution. Although conditions were not optimal, as this was an initial study, statistical significance testing was used. A qualitative examination was also completed of the student peer tutor journals.

Psychometric Properties

Attitudes Toward Disabled Persons (SADP): Reliability and Scale Descriptions

According to Antonak (1981), the SADP assesses three domains of attitudes, including (a) equity and equality (specifically equality of employment opportunity, community participation equity, and integration into society), (b) anti-normalization and discrimination in habilitation programs, and (c) negative stereotypes of personality and social characteristics. While Antonak's original three domains yielded satisfactory reliability coefficients in the 1981 research, for this study, classifying the data into these
three domains resulted in substandard coefficients. Therefore, for purposes of this study, the 24 items were classified into seven domains that were derived from a factor analysis of the items that compose the SADP, using responses from the 589 students who completed the pretest questionnaire (see Table 3).

Cronbach alpha coefficients were used to estimate the reliability of this instrument. Antonak's 1981 reliability coefficients for his three domains range from .55 to .73. The coefficients for the seven subscales used in this study are slightly lower than Antonak's three domains, with a range from .53 to .65.

The resulting subscales include self-determination, comprised of five questions (see Table 3). The second subscale is called adverse effects and contains two items. Costs is the third subscale with two questions related to housing and rehabilitation expenses for people with disabilities. The employment subscale, concerned with job discrimination and equal employment opportunities, also has two questions. In addition to the above four subscales, the following items were distinct and were used as single-item indicators. They include questions, as shown on Table 3, for the subscales of accident prone, deviance, and community.

The self-determination subscale encompasses Antonak's attitudinal concepts of equality and discrimination. It assesses basic attitudes about whether people with disabilities are competent and can live independently. The items for this subscale measure attitudes of respondents concerning the ability of people with disabilities to make moral decisions and chose where they want to live. It also measures attitudes concerning whether individuals with disabilities can live outside an institution, if they
Table 3

Factor Loadings and Alpha Coefficients Depicting the Internal Structure of the Scale of Attitudes Toward Disabled Persons (SADP) (Principal Components Extraction, Oblique Rotation)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. Self-determination (alpha = .62)</td>
<td></td>
</tr>
<tr>
<td>An individual with a disability is capable of making moral decisions.</td>
<td>.55</td>
</tr>
<tr>
<td>People with disabilities should be allowed to live where and how they choose</td>
<td>.49</td>
</tr>
<tr>
<td>Most people with disabilities are willing to work</td>
<td>.68</td>
</tr>
<tr>
<td>Individuals with disabilities are able to adjust to life outside an institutional setting</td>
<td>.66</td>
</tr>
<tr>
<td>The opportunity for gainful employment should be provided to persons with disabilities</td>
<td>.60</td>
</tr>
<tr>
<td>2. Adverse effects (alpha = .53)</td>
<td></td>
</tr>
<tr>
<td>Children with disabilities in regular classrooms have an adverse effect on other children</td>
<td>.69</td>
</tr>
<tr>
<td>People with disabilities show a deviant or abnormal personality profile</td>
<td>.75</td>
</tr>
<tr>
<td>3. Costs (alpha = .65)</td>
<td></td>
</tr>
<tr>
<td>Adequate housing for people with disabilities is expensive and too difficult to build</td>
<td>.83</td>
</tr>
<tr>
<td>Rehabilitation programs for people with disabilities are too expensive to operate</td>
<td>.80</td>
</tr>
<tr>
<td>4. Employment (alpha = .56)</td>
<td></td>
</tr>
<tr>
<td>Equal employment opportunities should be available to individuals with disabilities</td>
<td>.61</td>
</tr>
<tr>
<td>Laws to prevent employers from discriminating against people with disabilities should be passed</td>
<td>.72</td>
</tr>
<tr>
<td>5. Accident prone</td>
<td></td>
</tr>
<tr>
<td>People with disabilities are more accident prone than other people</td>
<td>.66</td>
</tr>
</tbody>
</table>

(table continues)
6. Deviance

People with disabilities need only the environment and opportunity to develop and express criminal tendencies.

7. Community

Zoning ordinances should allow group homes in residential districts.

---

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Deviance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.76</td>
<td></td>
</tr>
<tr>
<td>7. Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.81</td>
<td></td>
</tr>
</tbody>
</table>

are willing to work and if they should have the opportunity for employment. As shown in Table 4, a reliability coefficient of .62 was obtained for the self-determination subscale.

The subscale of adverse effects assesses discrimination within a school setting, and the negative stereotypes of "abnormal" personality and social characteristics. The two items identified in this subscale address attitudes as to whether children with disabilities in regular classrooms have an adverse effect on other children, and whether people with disabilities have a deviant personality. The reliability coefficient for the adverse effects subscale, as shown in Table 4, is .53.

The subscale called costs evaluates attitudes about whether or not adequate housing and rehabilitation programs for people with disabilities are too expensive. This factor yielded the highest reliability coefficient of .65.

The employment subscale addresses attitudes as to whether or not people with disabilities should have equal opportunities in employment and whether laws should be
Table 4

Reliability Estimates and Interscale Correlations Between Measures of Attitudes Toward Students with Disabilities

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-determination</td>
<td>(.62)</td>
<td>-.25</td>
<td>-.16</td>
<td>.40</td>
<td>-.10</td>
<td>-.24</td>
<td>.18</td>
<td>.02</td>
</tr>
<tr>
<td>2. Adverse effects</td>
<td>-.32</td>
<td>(.53)</td>
<td>.08</td>
<td>-.16</td>
<td>.12</td>
<td>.20</td>
<td>-.10</td>
<td>.53</td>
</tr>
<tr>
<td>3. Costs</td>
<td>-.27</td>
<td>.20</td>
<td>(.65)</td>
<td>-.13</td>
<td>.04</td>
<td>.08</td>
<td>-.01</td>
<td>.31</td>
</tr>
<tr>
<td>4. Employment</td>
<td>.49</td>
<td>-.21</td>
<td>-.21</td>
<td>(.56)</td>
<td>-.06</td>
<td>.11</td>
<td>.21</td>
<td>.02</td>
</tr>
<tr>
<td>5. Accident prone</td>
<td>-.08</td>
<td>.19</td>
<td>.06</td>
<td>-.04</td>
<td>(-)</td>
<td>.23</td>
<td>.06</td>
<td>.44</td>
</tr>
<tr>
<td>6. Deviance</td>
<td>-.14</td>
<td>.22</td>
<td>.12</td>
<td>-.21</td>
<td>.11</td>
<td>(-)</td>
<td>-.01</td>
<td>.50</td>
</tr>
<tr>
<td>7. Community</td>
<td>.27</td>
<td>-.08</td>
<td>-.14</td>
<td>-.19</td>
<td>-.03</td>
<td>-.16</td>
<td>(-)</td>
<td>.19</td>
</tr>
<tr>
<td>Total</td>
<td>.09</td>
<td>.62</td>
<td>.47</td>
<td>-.06</td>
<td>.44</td>
<td>.47</td>
<td>.07</td>
<td>(.50)</td>
</tr>
</tbody>
</table>

Note. Coefficients on the diagonal are Cronbach alpha coefficients; numbers above the diagonal are Pearson correlation coefficients depicting interscale relationships from the pretest; those below the diagonal depict interscale relationships from the posttest.

passed to prevent employment discrimination. The alpha coefficient for this subscale is .56.

Accident prone is fairly self-explanatory and is assessed by responses to only one question—whether individuals with disabilities are more accident prone than other people. Deviance was also measured by a single item regarding whether people with disabilities will develop criminal tendencies, given the right environment. The last subscale, community, is concerned with whether zoning ordinances should allow group homes (people with disabilities living together) in residential areas.

While the alpha coefficients generated from these data are comparable to those reported by Antonak (1988), the largest number of items is five in the subscale self-
determination, which also has the second largest alpha coefficient. The highest alpha coefficient emerged for the costs subscale. The other three subscales only contain two items, while the last two subscales are composed of one item. While obtained reliability estimates are not high, they were deemed adequate for purposes of this study.

**Interscale Correlations as Evidence of Construct Validity**

Construct validity is the extent to which a measure accurately reflects a particular construct or concept (Borg & Gall, 1989). Interscale correlations provide evidence of the relationship between individual measures and the consistency on pre- and posttests. Correlations are fairly consistent and adequate from the pretests and posttests on the majority of comparisons. As shown in Table 4, Pearson correlation coefficients depicting relationships from the pretest are the numbers appearing above the diagonal; numbers below the diagonal depict relationships from the posttest.

A convergent relationship is shown between self-determination and employment ($r = .40$ pretest and $r = .49$ posttest) as well as self-determination and community ($r = .18$ pretest and $r = .27$ posttest). These concepts are similar, and the correlations depicting a positive relationship on both the pre- and posttest are not surprising. The self-determination subscale addresses attitudes about people with disabilities making their own choices, including where they want to live and work. The subscale for employment is the related, yet more specific, concept that people with disabilities should not be discriminated against in the workplace and should have an equal opportunity for employment.

A small (or practically no) relationship is shown with costs and community ($r = .01$ pretest and $r = -.14$ posttest), and costs and accident prone ($r = .04$ pretest and $r = \ldots$
These subscales are conceptually unrelated as demonstrated by the low/zero correlation. The subscale community is concerned with whether zoning ordinances should allow group homes in residential areas so people with disabilities can live together, while the subscale costs is a quite different concept evaluating attitudes about the expense of housing and rehabilitation programs for people with disabilities.

A discriminant, or negative, relationship is apparent between self-determination and deviance ($r = -0.24$ pretest, $r = -0.14$ posttest). The small negative correlations are expected. Self-determination is an empowering, positive concept dealing with whether individuals with disabilities can control their lives and make their own decisions, while deviance reflects a negative concept towards people with disabilities, specifically that they will develop criminal tendencies given a conducive environment. A similar negative relationship was found between self-determination and adverse effects. The adverse effects subscale addresses whether children with disabilities have a negative influence in regular classrooms and if people with disabilities have abnormal personality profiles. As with self-determination and deviance, these are theoretically divergent concepts.

As stated earlier, these estimates of reliability and the correlations between measures are adequate for purposes of the present investigation. Interscale correlations were generated to examine construct validity, or how well the subscales measure the concepts they are intended to measure. The interscale correlations, as estimates of construct validity, are consistent with theoretical expectations.

Research Questions

The first hypothesis states that there will be no change in attitudes towards people with disabilities among students who either view the peer tutor videotape (over a
3-week period) or participate in peer tutoring (over a 12-week period). To test this hypothesis, responses from all participating students were compared between the pre- and postassessment occasions using paired t tests. This approach was used to account for the relationship between subject's pre-and posttest scores. The advantage of a dependent-groups design compared to an independent-groups design is that variability between subjects is partially accounted for (Couch, 1987). Results from these analyses are summarized in Table 5.

As shown, two of the seven attitude subscales (self-determination and community) yielded statistically significant change between pre- and post-assessments. Responses to the self-determination subscale (i.e., whether people with disabilities are capable decision makers/problem solvers) increased, \( t(288) = 2.75; p < .01 \), from \( \bar{X} = \)

Table 5

Paired t Tests, Means, and Standard Deviations Depicting the Change in Attitudes Towards Students with Disabilities Over 1 Week

<table>
<thead>
<tr>
<th>Item</th>
<th>Pretest</th>
<th>Posttest</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>SD</td>
<td>( \bar{X} )</td>
</tr>
<tr>
<td>Self-determination</td>
<td>1.38</td>
<td>.96</td>
<td>1.51</td>
</tr>
<tr>
<td>Adverse effects</td>
<td>1.32</td>
<td>2.98</td>
<td>1.05</td>
</tr>
<tr>
<td>Costs</td>
<td>-.30</td>
<td>2.62</td>
<td>-.26</td>
</tr>
<tr>
<td>Employment</td>
<td>1.37</td>
<td>1.36</td>
<td>1.40</td>
</tr>
<tr>
<td>Accident prone</td>
<td>3.07</td>
<td>3.30</td>
<td>2.77</td>
</tr>
<tr>
<td>Deviance</td>
<td>1.40</td>
<td>3.69</td>
<td>1.73</td>
</tr>
<tr>
<td>Community</td>
<td>.47</td>
<td>1.64</td>
<td>.71</td>
</tr>
<tr>
<td>Total</td>
<td>28.70</td>
<td>17.40</td>
<td>29.54</td>
</tr>
</tbody>
</table>

*One-tailed tests of sig, \( p < .05 \)
** \( p < .01 \)
Likewise, statistically significant change, \( t (302) = 2.31; p < .01 \), was also evident for attitudes regarding social aspects of community (i.e., living with other people with disabilities in group homes in residential areas). Responses to the community subscale also increased from the pre- to postassessment (pretest \( \bar{X} = .47 \) to posttest \( \bar{X} = .71 \)).

Interestingly, all three subscales that assess positive attitudes (self-determination, employment, and community) increased over time; while only two of the four subscales that reflect negative attitudes decreased (adverse and accident). Negative attitudes related to deviance and costs actually increased over the course of the study, although these increases were not statistically significant. Collectively, results from the analysis of change over time revealed two statistically significant findings (self-determination and community), both in a positive direction. It should be noted that these statistically significant relationships reflect a positive change in attitudes: specifically, a 9.42% increase in attitudes dealing with Self determination, and a 42.10% increase in attitudes associated with community.

The second hypothesis states that there will be no change in attitudes towards students with disabilities among students who complete one semester of peer tutoring. This hypothesis was tested by comparing assessments for students in two high schools before and after completing one semester of peer tutoring. As shown in Table 6, the self-determination subscale yielded statistically significant change after students finished a semester of peer tutoring students with disabilities. There was a decrease with the negative subscales adverse and costs. The other subscales increased, although
Table 6

Paired t Tests, Means, and Standard Deviations Depicting the Change in Attitudes Toward Students with Disabilities Before and After One Semester of Peer Tutoring

<table>
<thead>
<tr>
<th>Item</th>
<th>Pretest</th>
<th>Posttest</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>X</td>
</tr>
<tr>
<td>Self-determination</td>
<td>1.43</td>
<td>.86</td>
<td>1.74</td>
</tr>
<tr>
<td>Adverse effects</td>
<td>1.85</td>
<td>2.83</td>
<td>.92</td>
</tr>
<tr>
<td>Costs</td>
<td>-1.00</td>
<td>2.57</td>
<td>-1.58</td>
</tr>
<tr>
<td>Employment</td>
<td>1.32</td>
<td>1.43</td>
<td>1.64</td>
</tr>
<tr>
<td>Accident prone</td>
<td>2.88</td>
<td>3.45</td>
<td>3.27</td>
</tr>
<tr>
<td>Deviance</td>
<td>1.27</td>
<td>3.65</td>
<td>2.27</td>
</tr>
<tr>
<td>Community</td>
<td>.50</td>
<td>1.86</td>
<td>.65</td>
</tr>
<tr>
<td>Total</td>
<td>28.87</td>
<td>19.11</td>
<td>26.52</td>
</tr>
</tbody>
</table>

**p < .01

these increases were statistically nonsignificant. Responses to the self-determination subscale increased as follows: \( t(24) = -2.18; p < .01 \); means changed from \( \bar{X} = 1.43 \) (pretest) to \( \bar{X} = 1.74 \) (posttest). This statistically significant relationship reflects a positive change in attitudes as a result of participating in peer tutoring. Peer tutor journals were also analyzed (see discussion section for qualitative results).

The third hypothesis stated that there will be no change in attitudes towards students with disabilities among students who view the peer tutoring videotape. This hypothesis was tested by comparing responses from students over a 3-week period before and after viewing the peer tutoring videotape. Results are summarized below in Table 7. As shown, the subscales self-determination and community yielded statistically significant change over the 3-week period between pre- and
Table 7

Paired t Tests, Means, and Standard Deviations Depicting the Change in Attitudes Towards Students with Disabilities Before and After the Videotape Treatment

<table>
<thead>
<tr>
<th>Item</th>
<th>Pretest</th>
<th>Posttest</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>SD</td>
<td>$\bar{X}$</td>
</tr>
<tr>
<td>Self-determination</td>
<td>1.37</td>
<td>.97</td>
<td>1.49</td>
</tr>
<tr>
<td>Adverse effects</td>
<td>1.27</td>
<td>2.99</td>
<td>1.06</td>
</tr>
<tr>
<td>Costs</td>
<td>-.23</td>
<td>2.62</td>
<td>-.13</td>
</tr>
<tr>
<td>Employment</td>
<td>1.37</td>
<td>1.36</td>
<td>1.37</td>
</tr>
<tr>
<td>Accident prone</td>
<td>3.09</td>
<td>3.29</td>
<td>2.72</td>
</tr>
<tr>
<td>Deviance</td>
<td>1.41</td>
<td>3.70</td>
<td>1.68</td>
</tr>
<tr>
<td>Community</td>
<td>.47</td>
<td>1.62</td>
<td>.72</td>
</tr>
<tr>
<td>Total</td>
<td>28.68</td>
<td>17.27</td>
<td>29.84</td>
</tr>
</tbody>
</table>

** p < .01

postassessments. Responses to the self-determination subscale increased, $t(264) = -2.27; p < .01$, from $\bar{X} = 1.37$ (pretest) to $\bar{X} = 1.49$ (posttest). Statistically significant change, $t(277) = -2.38; p < .01$ was also evident for attitudes regarding living in the community. For responses to the community subscale, change from the pre- to postassessment was as follows: pre $\bar{X} = .47$; post $\bar{X} = .72$. It should be noted that these statistically significant relationships reflect a positive change in attitudes.

The fourth hypothesis states that there will be no difference in future intentions to peer tutor students with disabilities between students who view the peer tutor videotape and those who do not. This hypothesis was tested by the addition of two questions on the survey instrument. These questions asked whether a student would be interested in peer
tutoring a student with a disability (question 7) and if so, how many hours the student would be willing to spend each week (question 8). Positive responses on question 7 (as to whether a student would like to peer tutor) increased from 27.1% (pretest) \( N = 450 \), to 36.8% (posttest). Negative responses decreased from 36.7% to 28.7%, while ambivalent responses (don't know) stayed about the same (36.2% to 34.5%). Students who were willing to peer tutor less than 1 hour (question 8) increased slightly from 17.5% to 18.4%, students willing to peer tutor from 1 to 2 hours decreased from 64.3% to 55.3%, and those willing to peer tutor more than 3 hours increased almost 10% from 17.5 to 26.3%. After viewing the peer tutor videotape, the percentage of students willing to peer tutor increased, the number of students who were not willing to peer tutor decreased, while the students who were ambivalent stayed roughly the same. The amount of time students were willing to spend peer tutoring increased for the categories of 1 hour and more than 3 hours, but decreased for the category of 1 to 2 hours.

The fifth hypothesis states that there will be no difference in attitudes towards people with disabilities by gender. To test this hypothesis, an ANCOVA was run, to control for pretest differences. As expected, there were differences in gender attitudes towards people with disabilities. As shown in Table 8, females were more accepting on subscales that are positive (self-determination, employment, and community), while males generally had higher scores on the negative subscales (adverse effects and costs). However, females had slightly higher scores on the negative subscales of accident prone and deviance. An ANOVA was also used to compare differences by gender on the pretests only, as shown on Table 9. As shown, females had higher scores for the
Table 8

**ANCOVA Posttest Gender Differences Controlling for Pretest Score**

<table>
<thead>
<tr>
<th>Item</th>
<th>Female $\bar{X}$</th>
<th>Male $\bar{X}$</th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-determination</td>
<td>1.58</td>
<td>1.38</td>
<td>(1,258)</td>
<td>4.73</td>
<td>.03</td>
</tr>
<tr>
<td>Adverse effects</td>
<td>.68</td>
<td>1.46</td>
<td>(1,262)</td>
<td>5.76</td>
<td>.02</td>
</tr>
<tr>
<td>Costs</td>
<td>-.41</td>
<td>.21</td>
<td>(1,273)</td>
<td>4.26</td>
<td>.04</td>
</tr>
<tr>
<td>Employment</td>
<td>1.57</td>
<td>1.14</td>
<td>(1,269)</td>
<td>9.20</td>
<td>.00</td>
</tr>
<tr>
<td>Accident prone</td>
<td>2.75</td>
<td>2.58</td>
<td>(1,274)</td>
<td>.18</td>
<td>.67</td>
</tr>
<tr>
<td>Deviance</td>
<td>1.76</td>
<td>1.62</td>
<td>(1,268)</td>
<td>.10</td>
<td>.75</td>
</tr>
<tr>
<td>Community</td>
<td>.85</td>
<td>.65</td>
<td>(1,271)</td>
<td>1.26</td>
<td>.26</td>
</tr>
</tbody>
</table>

Table 9

**Differences by Gender for Pretests Only**

<table>
<thead>
<tr>
<th>Item</th>
<th>Female $\bar{X}$</th>
<th>Male $\bar{X}$</th>
<th>df</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-determination</td>
<td>1.51</td>
<td>1.29</td>
<td>(1,456)</td>
<td>6.04</td>
<td>.01</td>
</tr>
<tr>
<td>Adverse effects</td>
<td>.88</td>
<td>2.05</td>
<td>(1,462)</td>
<td>17.56</td>
<td>.00</td>
</tr>
<tr>
<td>Costs</td>
<td>-.29</td>
<td>.13</td>
<td>(1,473)</td>
<td>2.60</td>
<td>.11</td>
</tr>
<tr>
<td>Employment</td>
<td>1.52</td>
<td>1.10</td>
<td>(1,466)</td>
<td>10.83</td>
<td>.00</td>
</tr>
<tr>
<td>Accident prone</td>
<td>2.96</td>
<td>3.39</td>
<td>(1,477)</td>
<td>2.07</td>
<td>.15</td>
</tr>
<tr>
<td>Deviance</td>
<td>1.03</td>
<td>1.88</td>
<td>(1,462)</td>
<td>6.29</td>
<td>.01</td>
</tr>
<tr>
<td>Community</td>
<td>.77</td>
<td>.39</td>
<td>(1,471)</td>
<td>6.86</td>
<td>.01</td>
</tr>
</tbody>
</table>

positive subscales of self-determination, employment, and community, while males had higher scores on all negative subscales including accident prone, deviance, adverse effects, and costs. These results are consistent with prior research. For additional information on ANOVA for each item x gender shown in Tables 8 and 9, see Appendix K.
Attitudes towards students with disabilities are important because social and architectural barriers still exist. For example, many individuals with mobility impairments cannot get into older buildings without ramps or elevators, roll down city streets without curb cuts, or attend a cultural event without wheelchair seating. Social barriers may be more difficult to identify, but are just as effective in excluding individuals with disabilities from academic, vocational, and community settings.

The purpose of this study was to measure the effectiveness of watching a motivational videotape and peer tutoring one semester on changing high school students' attitudes towards their peers with disabilities. This study utilized a fairly easy and quick method to positively change attitudes, which can lead to more inclusion in school and society. Peer tutoring and watching a videotape are reasonable methods that schools wanting to foster inclusion may utilize. Although statistical significance was found on only two of the seven subscales derived from the SADP, intentions to peer tutor increased, and qualitative analyses revealed positive attitudinal and behavioral outcomes for the majority of students.

Students with disabilities benefit from daily classroom contact with students without disabilities, for increased academic success, social contact, and acceptance from their peers (Schaffner & Buswell, 1993). Education in an inclusive environment can make the difference between a life of independence and productivity and one of
unemployment and dependence (National Council on Disability, 1989). An inclusive education means acquiring needed academic, social, and life skills that can lead to full participation in society.

Inclusion for students without disabilities means learning how similar disabled students are, which can lead to a reduction in negative attitudes and fostering of friendships. In addition, there are other positive benefits of inclusion for students without disabilities, including improvements in self-concept, growth in social cognition, increased tolerance levels, and reduced fear of differences.

Attitudes are a descriptive concept and are not directly observable or measurable with cognitive, affective, and behavioral components (Antonak & Livneh, 1988). Attitudes were measured with the 24-item Scale of Attitudes Toward Disabled Persons (SADP) administered on four separate occasions: before viewing the videotape; after viewing the videotape; and before and after one semester of peer tutoring was completed. Questions regarding intention and commitment to peer tutor were included as a behavioral measure to reflect a respondent's predisposition to action. These questions included whether the students would like to try peer tutoring, and how many hours per week they would be willing to peer tutor.

Two schools were selected to participate in the videotape treatment and complete pre- and postassessments. Students in special education classrooms from one of the selected video treatment schools and one other school completed the peer tutoring treatment. Measurement for this treatment included pre- and posttests and writing in weekly journals. Participation in this study was voluntary. The sample consisted of
309 students who completed pre- and postassessments used for statistical analysis, and 44 students who wrote in weekly peer tutor journals.

Seven subscales were derived from a factor analysis of the 24 items that compose the SADP, using responses from the 589 students who completed the pretest questionnaire. Reliability coefficients for the four subscales with two to five items ranged from .53 to .65.

The seven subscales include: (a) self-determination (issues about people with disabilities making their own choices, including where they want to live and work), (b) employment (people with disabilities should not be discriminated against in the workforce and should have an equal opportunity for employment), (c) accident prone (whether people with disabilities are more accident prone), (d) community (whether zoning ordinances should allow group homes in residential areas), (e) costs (the expense of housing and rehabilitation programs for people with disabilities), (f) deviance (people with disabilities will develop criminal tendencies given the right environment), and (g) adverse effects (whether children with disabilities have a negative influence and whether people with disabilities have abnormal personality profiles).

Two of the seven subscales yielded statistically significant results on combined treatment groups of videotape and peer tutoring between pre- and post-assessments. Statistically significant change was evident for attitudes regarding self-determination and community. Although all three subscales that assess positive attitudes (self-determination, community, and employment) increased over time, only the first two were statistically significant, both in a positive direction. Only two of the four
subscales that reflect negative attitudes decreased (adverse and accident). Negative attitudes related to deviance and costs actually increased over the course of the study, although these increases were not statistically significant. Results from the videotape treatment only were similar, with statistical significance for the same subscales of self-determination and community, while with the peer tutor group only, statistical significance was found only with self-determination. Results from an analysis of gender differences, using ANCOVA to control for pretest differences, found that females were generally more accepting of people with disabilities, scoring higher than males on positive subscales and lower on most negative subscales.

Qualitative Results

The weekly peer tutor journal entries (N = 44) provide an additional in-depth glimpse of attitudes towards students with disabilities. Although statistical significance was only found for two of the seven subscales when quantitative analyses were applied, the qualitative written responses paint a more positive picture.

Working with students with disabilities made some students feel better about themselves because they were doing something they considered worthwhile, providing a needed service and helping others. These attitudes are exemplified by the following peer tutor journal entries: "Working with Jon was cool because I felt I was doing some good." "I feel like I am a big help and it makes me feel good when I help Nicole." "I feel good because I am helping someone with disabilities learn like a regular student." "I need to make myself more open and helping more people." "It lets me know that things
could have been worse for me and it helps me look on the bright side of what's wrong with my life." "I feel I will be greatly changed by the time I leave this class for the summer." "Everyone needs help, some need more than others, some need less, but if somebody needs it, you should give it."

Other students found that peer tutoring students with disabilities was an enjoyable learning experience. "It may sound crazy but I am really starting to kinda like it." "The activities are fun and a good learning experience for both peer tutors and the kids with disabilities." "I really have learned to enjoy them. I think they are a lot nicer." "It is a great experience." "It was fun and we had a lot of fun." "I thought it was pretty fun. I wouldn't mind doing it more often." "I've loved the experience." "I am learning to like it more and more everyday." "I love being around these students, they make the day much brighter." "I love working with them." "It is fun and I learn something new every day."

According to the following journal entries, peer tutoring increased comfort levels around people with disabilities, for at least some of the students. "The more I get to know M.L. the more comfortable I feel around her." "I think I am about as comfortable as I can get. The kids are great." "I believe that I am becoming more comfortable with the more severely disabled even though I only see them for about ten minutes." "It is easier to talk to them." "I am starting to feel more comfortable around them, while having fun." "I grow more comfortable every week. I'm not even close to as afraid as I was in the very beginning." "The more I get to know them, the more comfortable I get around them. I think I'm getting to be better friends with them." "I feel more
comfortable around the students because I have gotten to know them better and feel that they have befriended me. I think they are all great people." "At first I found it difficult, but as I came to understand what to do, I was more comfortable with it." "Before I didn't know how to act around them [students with disabilities], but now I know they are just like anyone else." "I feel more safe around them. They don't spread rumors about you and stuff like that. They're a lot nicer than most people."

Even though the majority of students reported increased comfort levels around students with disabilities, there were some who did not. These students expressed uncertainties about what to say or how to behave. "Sometimes I don't feel like I am saying the right things. I don't know what to say, don't want to hurt their feelings." "I feel fine around some people, but some I feel uncomfortable around." "They are unable to do some activities I am and it makes it difficult to do activities with them." "It doesn't really matter to me anyway."

Peer tutors reported that their attitudes changed after working with students with disabilities. A number of tutors reported that they became friends with the people they were tutoring as the following entries illustrate: "Students with disabilities are really good friends and fun to be with. I used to think the complete opposite." "I think of them as just another one of my friends." "They are usually more courteous and don't judge me so I don't judge them." "They have become really good friends. I love being with them." "I think that they are fun to be around because sometimes you can learn from them." "I just got to know them better and like them more." "They are really awesome."
Other students who were peer tutoring wrote comments about how their perceptions of what people with disabilities can do positively changed. Some also realized the similarities between people, exemplified by the following comments: "I learned they are smarter than some people think they are." "I learned they all have different personalities, and are very talented each in their own way at things they do." "You learn stuff from them at the same time they learn stuff from you." "I feel that the more people interact with students with disabilities, the more they realize how much they have the same interests and hobbies just as the non-disabled people do." "I understand them a lot more than I did." "I see how they interact with others and they are just like us." "I feel more like they are just as able to do some things as well as we do." "I find out everyday that they [students with disabilities] know what's going on more than I thought. We joke around more." "My feelings are different because now I know how it is for them." "People are people."

Although most written comments were positive, some students expressed frustration with the person they were tutoring, as evidenced by the following examples: "I sometimes lose my cool, but I get it back." "S. was hard because I couldn't get him to do anything." "It was kind of hard working with M. I think it would be really hard to be like this." "It was fun, but at times frustrating." "It was hard to not answer the questions for him. And I was impatient with him being slow." "The activities were fun, but if your person doesn't want to pay attention, it gets on my nerves." "I found out they have mood swings too."
A tally was completed of weekly journals from School B and School S. For the question "Do you feel more comfortable around students with disabilities?" results from School B are as follows: 17 students responded affirmatively, 26 students responded negatively, and 6 responded maybe (this category included answers such as "sometimes" and "not really, but kind of"). For the last question on the peer tutor journal "Have your feelings about students with disabilities changed in the past week?" 14 students answered "yes," 34 students answered "no," and 7 responded "maybe" or wrote equivocal answers. While there are more negative than positive responses, many students wrote explanatory statements after their negative response such as, "I think I am about as comfortable as I can get. The kids are great," and "They [my feelings] changed a long time ago. I always cared, I just now understand," "I feel the same, they're just people," "I feel comfortable around everybody, even if they have disabilities," "Not more comfortable, But I do feel comfortable," and "Already feel comfortable." Some students reportedly already have positive attitudes towards students with disabilities, and therefore increased contact and knowledge of individuals with disabilities did not change their feelings and/or attitudes.

There were twice the number of students enrolled in peer tutoring for School S, specifically 14 students at School B versus 30 students at School S. The teacher at School S was also much more consistent in requesting weekly journals from her peer tutors. Consequently, there were many more completed weekly journals from the School S special education classroom. Interestingly, School S peer tutors did report increased comfort levels in their weekly journal with 85 entries marked "yes," 67 entries
marked "no," and only 4 entries with "maybe." However, as to the question whether their feelings had changed, only 49 entries were marked "yes," while 101 entries were marked "no" and 6 with "maybe." Again, many students wrote explanatory remarks to the effect that their attitudes towards people with disabilities were already positive, so their attitudes had not changed.

Limitations

Four schools were initially randomly selected to participate in this study, but only two of the four were cooperative. The social studies classrooms that were used in this sample were not randomly selected. This study is also lacking in a control group and random assignment of groups.

In addition, the sampling frame may not be as generalizable because of cultural and geographical limitations. These and other limitations, including the high attrition in School V with a small number of matched cases, make it questionable whether findings could be generalized to other populations. The two treatments, namely, peer tutoring for one semester and watching an 8-minute videotape, are unequal in duration and intensity. The length of the effect is unknown as no follow-up was conducted.

The total sample consisted of 589 students. However, as the primary reason for this study was attitude change, paired t tests were used. Unfortunately, there was a rather large attrition as a number of students did not write their names on their pretest or posttests, or both, so it was not possible to match tests. Some students who were not in class that day took the pretest only and some students took the posttest only, again
resulting in an inability to match scores. The major attrition occurred at School V as the teacher in charge of administering pretests and posttests was not diligent in distributing pretests and also did not separate tests by classroom. Consequently, there were only a small number of matched cases from School V. The total sample used for statistical analysis consisted of 309 students. See Table 2 for more specific information.

The instrument used in this study is in a questionnaire format, which may not be the best way to measure attitudes, although it is the most logistically feasible. This questionnaire is based on self-report by high school students, which may introduce inaccuracies. Students may not be willing to admit their true attitudes in a classroom setting, and/or their perception of themselves may not be necessarily accurate.

There were a number of other problems with the instrument, including negative wording on many of the items, which seemed to offend some of the respondents. Several students wrote comments that the questionnaire was biased against students with disabilities, instead of understanding it as simply an instrument to measure bias. The most offensive item on the survey was the question about deviant sexual behavior for people with disabilities. A number of students and a few teachers responded to this question with anger and indignation. It would be my recommendation that if this questionnaire were used in the future with a similar sample, that this item be deleted or at least reworded. It was difficult for the respondents to answer the survey accurately without a definition of disability. Several students and teachers reported that their response would vary depending on whether the survey was about people with learning disabilities, severe disabilities, cognitive disabilities, or physical disabilities. Antonak's
domains yielded low reliability coefficients for this study. Therefore, a factor analysis was used to generate seven new domains with higher reliability coefficients.

A few high school students wrote silly names and marked responses in an obvious pattern. Questionnaires that were answered in a "zig zag" or "straight-line" pattern were not used in the analyses. In addition, some students were reluctant to write their names, which were used to match pre- and posttests, or the students were not there for both days, resulting in a fairly large attrition. Even though detailed instructions were given to the teacher at School V in charge of distributing surveys to classrooms, and written cooperation was obtained, only a small number of pretests were administered. In addition, tests were not separated by classroom, resulting in a low number of pre- and posttests.

There were experimental confounds in at least one classroom. Even though detailed instructions were included, one teacher at School S did not want to participate in the study, even though the principal instructed her to do so. As a result, she was uncooperative and encouraged her students to write lengthy negative remarks instead of filling out the survey. None of the questionnaires in this classroom were included in the analyses as most of the surveys were biased, incomplete, or deliberately inaccurate.

Although the responses and comments written in the peer tutor weekly journals were mostly positive, it should be noted that students who have negative attitudes towards individuals with disabilities would probably not sign up for peer tutoring in the first place.
Recommendations for Future Research

It is possible that attitudes may be more accurately studied using a different method, rather than a self-report instrument. The nature of self-report may result in inaccuracies. However, the way research about attitudes is generally conducted is by asking people. About half of the questions on the survey instrument were worded negatively, which seemed to upset a few students. These students seemed to interpret the negatively worded items, and therefore the instrument, as being biased against people with disabilities. It may be preferable to have a smaller proportion of negatively worded statements for a high school student sample, or more explanation.

As mentioned previously, defining disabilities was another problem for some students. Some wrote that their answers would vary, according to the severity of the disability and whether the person's disability was physical, emotional, or mental. A definition of disabilities on the attitude instrument may result in less ambiguity and more consistent responses.

Teachers were used to administer the survey because it was the principal's preference, and because 13 classes completed the survey at the same time, making it logistically impossible for the researcher to administer them. However, if at all possible, the researcher and assistants, if necessary, should administer the survey, instead of teachers. It is critical for the researcher to maintain control to minimize bias and experimental confounds. Data collection, if left up to someone who is relatively unknown, who does not have an interest in the research, and may or may not be trusted,
is risky at best. If the researcher had administered the pretests and posttests, many more pretests would have been obtained from School V instead of the 35 that were matched. The pretests and posttests from at least one more classroom from School S could have been used without the teacher's negative and biased influence.

A sampling frame from a more diverse cultural and geographical base would result in more generalizable findings. With high school students, the question on sexual practices should not be included or possibly reworded, as it generated controversy and distracted from the purposes of the study.

A different method of matching pretests with posttests with an attitude survey, other than names, may result in a smaller attrition rate. There was not a way to determine if differences exist between students who completed the survey, and those who did not, and those who were not in school that day.

Problems with the instrument, including the lack of disability definition, the abundance of negative item wording, and reactions to the sexual item, could have been discovered with a small pilot study. It is the researcher's recommendation that field tests with similar populations be conducted whenever possible.

Antonak (1981) stated that the profound changes in special education and rehabilitation have intensified interest in the measurement of attitudes impacting successful integration into society. Changing attitudes towards persons with disabilities will continue to be a topic of interest until inclusion and acceptance into all aspects of society become a reality.
REFERENCES


APPENDICES
Appendix A

Peer Power Videotape Narrative Transcript
Why should you try peer tutoring? (Graphics in Bold)

It is the most rewarding experience anyone can ask for.

It's a great program. You learn a lot.

It's a really good learning experience. It gives you a new look on life.

I mean I loved it immediately. It's a lift to my day.

Peer tutoring is one of the best things that ever happened to me.

What will your friends think?

It was kind of hard at first, you know for the pressure, but once they got to know what my purpose was and they understood what the program was all about, then they realized that this is an important part of getting them back into society, they are learning what to do in society and be productive citizens, and the good that it does, then they kind of just backed off.

My friends have done it and I thought it would be fun to do.

Yah, all my friends support me. In fact, a few of them are peer tutors now.

Do you see a person's disability first?

I was terrified. I was scared to death to go in.

Before I took the class I really didn't have an understanding of what they did or even what they were doing in the school.

I got in there and I didn't even think I could walk up to them, especially the people who looked different.

I saw their disabilities first before I saw them as people.

Peer tutoring changes attitudes!

You may look different or talk a little bit different, but we're all the same person inside. We're best friends now. We go to the mall. She stays at my house. I go to hers, movies, whatever, right?

If my experience means anything, I have totally changed the way I look at it.
And what I found out was these are regular people, normal people who I could learn to love and become my best friends and my friends.

It's good to work with the kids in our class because they're funny and nice. They grow on you.

Our relationship is really good because we can just do whatever and not feel stupid about it. Huh, Holley (She giggles) Yes. (both laugh).

Luckily, at our school we have a very, very good student body as far as that is concerned. They are very open and open minded to new ideas and ready to accept people for who they are.

You can impact each other's lives

Maybe the most important people in your lives right now are not your parents, are not your teachers, are not your people at your church if you go to church, but they are your friends. Right now the most important people are your friends. And that's why the idea of peer power is so, so important.

There are other people out there that need help and they need to go to school. And some of them drop out because they can't get through because people make fun of them. And I think people ought to help other people.

What if I was to get in a car accident? Would I want people to treat me how I treated others? You know, think about it from their point of view. How would you feel if you walk down the hall and you needed help and people walk by.

Don't be afraid. They're people too. They need friends.

And that, I mean if you don't think you can handle it, just do it and see.

It taught me that I feel better about myself when I'm helping others, and through that maybe others can feel better about themselves, too.

It's good to see yourself making a difference in their lives.

My goal for graduation is to walk across the stage with crutches. She's working so hard, she goes around here almost every day. And she started out not even going half way and now she's going all the way around with two stops. And I just look up to her cause she works so hard. This is probably my favorite class this term because of Jen. She's just always so happy. Oh, don't get embarrassed. Jen's my hero. That's basically it.
Don't miss out. It's a great experience.

This is my first semester of peer tutoring and I wish I would have done it last year.

And I could have been doing it when I was a freshman and I could have been having so much fun.

Do it. It's the most fun you'll ever have in your high school experience.

I would encourage everyone to do it.

It's a great experience.

Definitely do it. It's a great thing to do in life.

I think if they don't at least try to be a peer tutor they are really missing out on a tremendous experience.

Try peer tutoring. Your high school experience will never be the same.
Appendix B

Scale of Attitudes Toward Disabled Persons (SADP)
This questionnaire is part of a study conducted by Utah State University, the Utah State Office of Education and Viewmont High School. The statements presented below express opinions or ideas about people with disabilities. There are many differences of opinion, many people agree and many people disagree with each statement. We would like to know your opinion. Please complete all items on this and the following page. All responses are confidential. Thank you for your assistance.

1. Name:__________________________________________

2. Birth date: Month_____ Year_____

3. Sex: ___ M  ___ F

4. Do you know a person with a disability? If "yes", check all that apply:
   ___ Sibling  ___ Friend
   ___ Neighbor  ___ Parent
   ___ Relative  ___ Co-worker
   ___ Acquaintance  ___ Other (explain)_____________________

5. Please rate your general knowledge of the life circumstances of individuals with disabilities:

   No Knowledge  Extensive Knowledge
   1  2  3  4  5

6. Please rate the frequency of your contact with persons with disabilities:

   Very infrequent  Very Frequent
   1  2  3  4  5

7. Are you interested in peer tutoring a student with a disability?

   Yes ______
   No ___ (Skip to Question #9 below)
   Don't know___ (Skip to Question #9)

8. How much time every week would you be willing to spend peer tutoring?

   Less than 1 hour ___
   1 to 2 hours ___
   More than 3 hours ___

Richard F. Antonak    SADP    Revised January 1987 © 1980

Please put an "X" through the appropriate number from -3 to +3 which best describes how you feel about each statement. There are no right or wrong answers. You should work as quickly as you can, but don't rush. There is no time limit.

   -3: I DISAGREE VERY MUCH  KEY  +1: I AGREE A LITTLE
   -2: I DISAGREE PRETTY MUCH  +2: I AGREE PRETTY MUCH
   -1: I DISAGREE A LITTLE  +3: I AGREE VERY MUCH

PLEASE RESPOND TO EVERY STATEMENT

9. Children with disabilities should be provided with a free public education.

   -3 -2 -1 +1 +2 +3

10. People with disabilities are more accident prone than other people.

    -3 -2 -1 +1 +2 +3

11. An individual with a disability is capable of making moral decisions.

    -3 -2 -1 +1 +2 +3
<table>
<thead>
<tr>
<th></th>
<th>-3: I DISAGREE VERY MUCH</th>
<th>KEY</th>
<th>+1: I AGREE A LITTLE</th>
<th>+2: I AGREE PRETTY MUCH</th>
<th>+3: I AGREE VERY MUCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>People with disabilities should be prevented from having children.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>13.</td>
<td>People with disabilities should be allowed to live where and how they chose.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>14.</td>
<td>Adequate housing for people with disabilities is too expensive and too difficult to build.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>15.</td>
<td>Rehabilitation programs for people with disabilities are too expensive to operate.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>16.</td>
<td>Adults with disabilities are in many ways like children.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>17.</td>
<td>People with disabilities need only the appropriate environment and opportunity to develop and express criminal tendencies.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>18.</td>
<td>Adults with disabilities should be involuntarily committed to an institution following arrest.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>19.</td>
<td>Most people with disabilities are willing to work.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>20.</td>
<td>Disabled individuals are able to adjust to life outside an institutional setting.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>21.</td>
<td>Disabled adults should be prohibited from obtaining a driver's license.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>22.</td>
<td>People with disabilities should live with others of similar disability.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>23.</td>
<td>Zoning ordinances should allow group homes in residential districts.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>24.</td>
<td>The opportunity for gainful employment should be provided to disabled people.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>25.</td>
<td>Disabled children in regular classrooms have an adverse effect on other children.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>26.</td>
<td>Simple repetitive work is appropriate for people with disabilities.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>I DISAGREE VERY MUCH</td>
<td>KEY</td>
<td>+1:</td>
<td>I AGREE A LITTLE</td>
<td>+2:</td>
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<tr>
<td>27.</td>
<td>People with disabilities show a deviant or abnormal personality profile.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>28.</td>
<td>Equal employment opportunities should be available to disabled individuals.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>29.</td>
<td>Laws to prevent employers from discriminating against disabled people should be passed.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>30.</td>
<td>People with disabilities engage in strange and freakish sexual activity.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
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<tr>
<td>31.</td>
<td>Workers with disabilities should receive at least the minimum wage established for their jobs.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
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<tr>
<td>32.</td>
<td>Individuals with disabilities can be expected to fit into our competitive society.</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>+1</td>
</tr>
</tbody>
</table>
Appendix C

Peer Tutor Weekly Journal
PEER TUTOR WEEKLY JOURNAL

Name: 

Date: 

Activities Completed: 

Briefly state how you felt about doing these activities: 

What was your favorite experience this week? 

What activities would you most recommend changing? 

Do you feel more comfortable around students with disabilities? 
If yes, could you explain why you feel more comfortable? 

Have your feelings about students with disabilities changed in the past week? 
If yes, please describe:
Appendix D

Internal Review Board Approval
January 2, 1996

MEMORANDUM

TO: Randall Jones, PI
Marilyn Hammon - Student Researcher

FROM: True Rubal

SUBJECT: Proposal titled, "Attitudes of High School Students Towards Peers with Disabilities"

Your proposal has been reviewed and approved by the IRB under the Federal Regulations 46.116 Subpart D. You may consider this letter to be your approval for your study.

Any deviation from this protocol will need to be resubmitted to the IRB. This includes any changes in the methodology or procedures of this protocol. A status report is required in November, 1996 stating if the project is completed or if a continuation is needed.

Please keep the committee advised of any changes, adverse reactions or termination of the study.
Appendix E

USU and USOE Letter
January 8, 1996

Dear Principal:

The Utah State Office of Education (USOE) and Utah State University (USU), as part of a peer tutoring program, will be examining attitudes of high school students towards their peers with disabilities. Your school has been randomly selected for possible participation in this study. We would appreciate it if all of the social studies classes are permitted to participate.

The study will consist primarily of a short survey of students' attitudes completed before and after viewing a videotape about peer tutoring students with disabilities, and again after taking one quarter of peer tutoring. Other variables that may also be examined include gender and grade point average.

Marilyn Hammond, from Utah State University, will be calling you to get the names of all the social studies teachers in your school, so she can contact them individually if you agree to participate. She would like to begin the study around the second week of February. We appreciate your cooperation and willingness to help foster positive attitudes towards peer tutoring and students with disabilities.

Thanks again for your help. If you have questions, or concerns, please contact Marilyn Hammond at (801) 797-3811 or John Killoran at (801) 538-7708. Thank you.

Sincerely,

John J. Killoran
Education Specialist
Preschool/Early Childhood Special Education

Marilyn Hammond
Education Specialist
Center for Persons with Disabilities
USU
Appendix F

Cache County School District Letter
April 22, 1996

Marilyn Hammond
USU, Center for Persons
with Disabilities
UMC 6855
Logan, UT 84322-6855

Dear Marilyn:

We have reviewed your application for research titled: Attitudes of High School Students Towards Peers with Disabilities. At this time we cannot allow you to conduct this research. The following information needs to be provided before we can consider the project:

1. sample questionnaire
2. video to be used
3. information on securing parent permission
4. # of subjects in the study
5. specific schools, in one place on application
   (#B.6) it mentions four schools, then two high schools are mentioned later (#B.7)

The proposal will be reviewed after we receive the additional information.

Sincerely,

Stephen W. Zsiray, Jr.
Assistant Superintendent

SWZ/jh
Appendix G

Cache County School District Approval
October 30, 1996

Marilyn Hammond
Utah Assistive Technology Program
Utah State University
Logan, UT 84322-6855

Dear Marilyn:

Sorry for the delay in getting a response to you. The research is conditionally approved pending your follow through on two items:

1. The principals of Mountain Crest (Mike Salvesen) and Sky View (Larry Olsen) must be contacted and they consent to participation. Involving all social studies classes could be a logistical problem and this is a departure from the original proposal.

2. Contact the parents of the students who will be involved in the study. The sample letter that you provided will work. We want parents to know when research is conducted in our schools.

Thank you for your answers to the questions posed to you by the Research Review Committee. You are approved to conduct your research in the Cache County District after you contact and review the project with Vida Gines.

If I can provide you with any further assistance, please call me.

Sincerely,

Stephen W. Zsiray, Jr.
Director of Information Systems and Development

cc: Mike Salvesen, Larry Olsen
Appendix H

Parental Consent Form
Dear Parent,

The Center for Persons with Disabilities at Utah State University and the Utah State Office of Education produced a videotape about peer tutoring students with disabilities. As part of the requirements for a dissertation, I am evaluating the effect of this videotape and peer tutoring on attitudes towards students with disabilities. The videotape will be shown in your child's classroom and your child will be asked to fill out a questionnaire. This questionnaire is the Scale of Attitudes towards Disabled Persons consisting of 24 items. All answers will be strictly confidential, and only group scores will be reported. If you have any questions or concerns, please feel free to call me at 797-3811 or write to the address above. If you do NOT want your child to participate in this study, please sign and return this form as soon as possible.

Thanks for your cooperation.

Sincerely,

Marilyn Hammond

I do NOT want the following student to participate in this study:

Students name__________________________________________________________

Parents signature ______________________________________________________
Appendix I

Teacher Pretest Instructions
Dear Teacher,

Thank you very much for your help with these surveys. I appreciate your willingness to participate in this study. Students with disabilities will continue to be educated in regular classrooms in increasing numbers. The Utah State Office of Education and the Center for Persons with Disabilities feel it is important to determine current attitudes towards students with disabilities.

The enclosed questionnaires (pretests) assess student's attitudes towards people with disabilities. Please emphasize that the questionnaire is not a test, and there are no right or wrong answers. Scores will be reported in group form only. Individual data will be completely confidential. If questions arise, please ask the students to use their best judgment.

I will sent the posttests and videotapes in a few days. If possible, please administer the pretest and then about one week later, show the video and give the posttest immediately after the videotape is finished. Please keep each classroom's finished pretests separate by putting them in the enclosed large envelopes.
I will pick them up or someone from my office will pick them up.

Thank you very much for your time and cooperation. Please call me if you have any questions or concerns. You can reach me by phone at (801) 797-3811, fax at (801) 797-2355, or by e-mail at Mhammond @cc.usu.edu. Again, thank you for your help.

Sincerely,

Marilyn Hammond
Appendix J

Teacher Posttest Instructions
Dear Jill,

Thank you very much for your time and effort in administering the questionnaire (pretest) assessing attitudes towards people with disabilities. I appreciate your and the other teacher's help.

Please play the Peer Power videotape about peer tutoring and students with disabilities and then distribute the questionnaires (posttests) in this packet to your students. The videotape lasts about eight minutes. Again, the questionnaires will take about ten to twelve minutes to complete. Total class time for the tape and the test is about 20 minutes. Please keep the questionnaires for each classroom in separate envelopes so we can compare scores by classroom. Either I or someone from my office will pick up the finished questionnaires and videotapes.

Please contact me if you have any questions or concerns. You can reach me by phone at (801) 797-3811, by fax at (801) 797-2355, or by e-mail at: Mhammond@cc.usu.edu. Again, thank you for your help with this project.

Sincerely,

Marilyn Hammond
Appendix K

Supplemental Table Information
### Table K1

**Analysis of Variance for Self-Determination x Gender (Controlling for Pretest)**

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<th>F</th>
<th>p</th>
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<tr>
<td>Pretest</td>
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<td>99.27</td>
<td>186.21</td>
<td>.00</td>
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<td>Main effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>2.52</td>
<td>4.73</td>
<td>.03</td>
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<tr>
<td>Residual</td>
<td>258</td>
<td>.53</td>
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</table>

\[ R^2 = .425 \]

### Table K2

**Analysis of Variance for Adverse Effects x Gender (Controlling for Pretest)**

<table>
<thead>
<tr>
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<th>df</th>
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<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>1</td>
<td>645.07</td>
<td>93.68</td>
<td>.00</td>
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<tr>
<td>Main effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>39.69</td>
<td>5.76</td>
<td>.02</td>
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<td>Residual</td>
<td>262</td>
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</table>

\[ R^2 = .275 \]
Table K3

Analysis of Variance for Costs x Gender (Controlling for Pretest)

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<tbody>
<tr>
<td>Covariate</td>
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<td></td>
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<tr>
<td>Pretest</td>
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<td>489.74</td>
<td>79.46</td>
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<td>Main effect</td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
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<td>26.22</td>
<td>4.26</td>
<td>.04</td>
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<td>Residual</td>
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<td>R² = .235</td>
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Table K4

Analysis of Variance for Employment x Gender (Controlling for Pretest)

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</thead>
<tbody>
<tr>
<td>Covariate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>1</td>
<td>159.27</td>
<td>122.01</td>
<td>.00</td>
</tr>
<tr>
<td>Main effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Gender</td>
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<td>12.00</td>
<td>9.20</td>
<td>.00</td>
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<tr>
<td>Residual</td>
<td>269</td>
<td>1.31</td>
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</tr>
<tr>
<td>R² = .328</td>
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Table K5

Analysis of Variance for Accident Prone x Gender (Controlling for Pretest)

<table>
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</thead>
<tbody>
<tr>
<td>Covariate</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
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<td>649.95</td>
<td>61.85</td>
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<td>Main effect</td>
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<td></td>
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<tr>
<td>Gender</td>
<td>1</td>
<td>1.93</td>
<td>.18</td>
<td>.67</td>
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<tr>
<td>Residual</td>
<td>274</td>
<td>10.51</td>
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</table>

$R^2 = .185$

Table K6

Analysis of Variance for Deviance x Gender (Controlling for Pretest)

<table>
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<td></td>
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<td></td>
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<tr>
<td>Pretest</td>
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<td>395.08</td>
<td>30.29</td>
<td>.00</td>
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<tr>
<td>Gender</td>
<td>1</td>
<td>1.28</td>
<td>.10</td>
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<td>270</td>
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</table>

$R^2 = .102$
Table K7

Analysis of Variance for Community x Gender (Controlling for Pretest)

<table>
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<tbody>
<tr>
<td>Covariate</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>1</td>
<td>138.94</td>
<td>66.23</td>
<td>.00</td>
</tr>
<tr>
<td>Main effect</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
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<td>2.64</td>
<td>1.26</td>
<td>.26</td>
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<tr>
<td>Residual</td>
<td>271</td>
<td>2.10</td>
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R² = .199

Table K8

Analysis of Variance for Self-Determination x Gender (Pretest Only)

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<tbody>
<tr>
<td>Between groups</td>
<td>1</td>
<td>5.29</td>
<td>6.04</td>
<td>.01</td>
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<tr>
<td>Within groups</td>
<td>456</td>
<td>.87</td>
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Table K9

Analysis of Variance for Adverse Effects x Gender (Pretest Only)

<table>
<thead>
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<tbody>
<tr>
<td>Between groups</td>
<td>1</td>
<td>157.58</td>
<td>17.56</td>
<td>.00</td>
</tr>
<tr>
<td>Within groups</td>
<td>462</td>
<td>8.98</td>
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Table K10

**Analysis of Variance for Costs x Gender (Pretest Only)**

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<tr>
<th>Source</th>
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<tbody>
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<td>Between groups</td>
<td>1</td>
<td>20.90</td>
<td>2.60</td>
<td>.11</td>
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<tr>
<td>Within groups</td>
<td>473</td>
<td>8.05</td>
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Table K11

**Analysis of Variance for Employment x Gender (Pretest Only)**

<table>
<thead>
<tr>
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<th>p</th>
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</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>1</td>
<td>20.63</td>
<td>10.83</td>
<td>.00</td>
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<tr>
<td>Within groups</td>
<td>466</td>
<td>1.91</td>
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</table>

Table K12

**Analysis of Variance for Accident Prone x Gender (Pretest Only)**

<table>
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</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>1</td>
<td>21.86</td>
<td>2.07</td>
<td>.15</td>
</tr>
<tr>
<td>Within groups</td>
<td>477</td>
<td>10.57</td>
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</table>
Table K13

Analysis of Variance for Deviance x Gender (Pretest Only)

<table>
<thead>
<tr>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>1</td>
<td>84.96</td>
<td>6.29</td>
<td>.01</td>
</tr>
<tr>
<td>Within groups</td>
<td>462</td>
<td>13.50</td>
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</table>

Table K14

Analysis of Variance for Community x Gender (Pretest Only)

<table>
<thead>
<tr>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>1</td>
<td>17.48</td>
<td>6.86</td>
<td>.01</td>
</tr>
<tr>
<td>Within groups</td>
<td>471</td>
<td>2.55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VITA

Marilyn Hammond
Center for Persons with Disabilities, Utah State University
Logan, Utah 84322-6588
(435) 797-3811 office Mhammond@cc.usu.edu

EDUCATION

B.S. Utah State University, Sociology, 1977
M.S. Utah State University, Instructional Technology, 1990
Ph.D. Candidate, Utah State University, Family and Human Development, 1999

EMPLOYMENT

Utah Assistive Technology Program, Instructional Designer 01/91 - present


Utah State Office of Education Media Project, Co-Director 01/93 - present

Producer, director, and writer of several educational videotapes and public service announcements to encourage inclusion and acceptance of students with disabilities produced for elementary, middle and high schools statewide. Other tapes with written materials were targeted for employers. Co-writer and editor public relations and inclusion manual with national distribution.

Utah State Office of Recovery Services, Medical Investigator 11/80 - 10/84

Managed Medicaid Fraud and Probate team. Supervised investigation of probates and fraud regarding Medicaid funds, regulations, and settlements.

Utah State Community Operations Office, Eligibility Examiner 2/78 - 10/80

Trained new employees on policy and procedure. Determined applicant eligibility. Received incentive award and Welfare Rights Commendation.
MAJOR PRESENTATIONS


Business to Business Exposition. Governor's Committee on Employment of People with Disabilities, Salt Lake City, UT. (1997, May)

Employment for students with disabilities. SARS Statewide Conference, St. George, UT. (1996, April).


Portrayal of individuals with disabilities in print & video. Association for Educational & Communications Technology, Nashville, TN. (1994, Feb.).


PUBLICATIONS


**GRANTS SUBMITTED**

Video Guide to Inclusive Classrooms (October, 1998). Utah State Office of Education. $27,000. (Funded)


A Consumer-Based Personal Assistant Training Program. (Oct. 96) Interagency Outreach Training Initiative. $51,410 (Funded).

Development of videos and written materials on employing people with disabilities (April, 1996). Utah State Office of Education. $19,731 (Funded)

Multi-media to foster inclusion of students with disabilities, and promote disability prevention. (October, 1994). Utah State Office of Education. $57,000 (Funded).


The multi-media development to increase understanding of students with disabilities. Utah State Office of Education. (Dec, 1992). $38,890 (Funded).


HONORS

First Place, National Council on Family Relations Media Competition, 1997.
Media/Public Awareness Golden Key Award, Utah Governor's Committee, 1994.
First Place, National Council on Family Relations Media Competition, 1993.
Judge Chair, 1993 - 1998 International Health and Medical Film Festivals.
Finalist, The 1992 International Health and Medical Film Festival.