THE EFFECTS OF PARTICIPATION IN A PHYSICAL ACTIVITY MENTORING PROGRAM ON THE ATTITUDES OF COLLEGE STUDENTS TOWARD INDIVIDUALS WITH DISABILITIES

A Manuscript Style Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science

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May 2010
THE EFFECTS OF PARTICIPATION IN A PHYSICAL ACTIVITY MENTORING PROGRAM ON THE ATTITUDES OF COLLEGE STUDENTS TOWARD INDIVIDUALS WITH DISABILITIES

By Tanya Shull

We recommend acceptance of this thesis in partial fulfillment of the candidate's requirements for the degree of Master of Science in Exercise and Sport Science: Physical Education Teaching-Adapted Physical Education Concentration

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ABSTRACT

Shull, T. The effects of participation in a physical activity mentoring program on the attitudes of college students toward individuals with disabilities. MS in Exercise and Sport Science-Physical Education Teaching, Adapted Physical Education Concentration, May, 2010, 62 pp. (G.Tymeson)

Background: Health-related mentoring programs for individuals with disabilities can produce benefits for all participants. Physical activity is critical for individuals with disabilities and has been shown to enhance many aspects of their health. Through a physical activity mentoring program, persons can benefit from a mentor to become physically active.

Objective: To determine the effects of a physical activity mentoring program for individuals with disabilities on the attitudes of college students towards persons with disabilities.

Methods: College student mentors (n = 36) were paired with individuals with disabilities to participate in physical activity 2 hours a week for 8 weeks. Mentors completed pre and post attitude surveys. A control group (n = 32) was used for comparison. Two scales were utilized to measure attitudes of college students. Antonak’s Scale Toward Disabled Persons and Gething’s Modified Interaction with Disabled Persons Scale were used.

Results: Participation in a physical activity mentoring program for individuals with disabilities did not show a significant difference in attitude change in the experimental group (mentors) compared to a control group.

Conclusions: Data suggests future studies with larger samples may find a change in sub groups. To determine the affects of participation in a physical activity mentoring program more research needs to be done.
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Introduction

The attitudes of people toward individuals with disabilities have long been a topic for researchers. Understanding the attitudes of the nondisabled toward individuals with disabilities can help explain many aspects of both groups’ behaviors, expectations, and interactions in the community. For example, negative attitudes build barriers that restrict people with disabilities from participating to the fullest in their communities, schools, and workplaces [1-5]. Examining the attitudes of people toward individuals with disabilities can help more clearly understand the type of experience that can transform attitudes to be more positive [1].

Attitudes are defined as reflections of deep-seated values and a pervasive force driving how people choose to act and respond to others [2]. These values can build negative attitudes toward a group of people and create barriers for that group. Not only are barriers built between people, but such attitudes can also create discriminatory behavior and stereotypical responses towards a group of individuals [2,3]. Individuals with disabilities have been fighting these barriers for decades and continue to work to be a part of the mainstream community [2].

The study of attitudes toward individuals with disabilities has been a topic of interest for decades. The passage of the Americans with Disabilities Act (ADA) in 1990 reinforced the ongoing efforts to reduce discrimination. Before the ADA, individuals with disabilities were often discriminated against in the work place, public transportation,
schools, and the community [1-5]. Although the ADA was not primarily developed to change attitudes toward individuals with disabilities, it helped promote improved understanding in the community, schools, and work places in an effort to empower individuals with disabilities and to break down barriers [1]. The ADA is still being recognized and revised. In 2008, amendments to the ADA were passed, demonstrating that this mandate is important and that the inclusion of individuals with disabilities is still a significant concern in the U.S. and that we value equal rights for individuals with disabilities.

Negative and positive attitudes can have very different outcomes on people. Positive attitudes can promote acceptance and integration of everyone into a group [3]. In contrast, negative attitudes can build barriers between people in the community [2]. Negative attitudes also build stigmas toward individuals with disabilities, which can lead to avoidance or rejection on the basis of those stigmatizations [5]. Individuals with disabilities might feel helpless, intimidated, dependent, unstable, isolated, and disempowered [4,5]. It is vital that teachers, health care workers, and other professionals working with individuals with disabilities have positive attitudes. A negative attitude can lead to the individual with a disability mirroring that attitude, causing that person to perceive themselves as unable or worthless [6]. Negative attitudes also promote the idea that individuals with disabilities are not accepted as valued persons in the community, and therefore do not have equal rights and opportunities [7]. Such attitudes also lead to avoidance and exclusion of individuals with disabilities [4]. It is important to identify ways to improve attitudes toward individuals with disabilities to help promote empowerment and acceptance.
Promoting and developing positive attitudes early with all professionals, especially those who will be working with individuals with disabilities, is essential so attitudes can be formed in a positive way from the start of a career. More research is needed on how to change attitudes, not just to understand what the attitudes are, in relationship to individuals with disabilities. Some research has focused on what changes attitudes and has shown that knowledge of disabilities and interacting with individuals with disabilities improves attitudes [3]. Interaction with individuals with disabilities and knowledge of disabilities have been found to be the best ways to change attitudes to be more positive towards individuals with disabilities [6,8,9]. Studies have concluded that interaction with individuals with disabilities have changed negative attitudes to more positive attitudes [9]. Stewart found that future physical education teachers who interacted with individuals with disabilities formed better attitudes about those persons [6].

Although research shows that interaction increases positive attitudes, not all interaction will do so. Accidental interaction can increase negative attitudes if the persons in the relationship do not have the same goals and ambitions [9]. Casual or accidental interaction can lead to people feeling uncomfortable in situations [10]. This discomfort can be due to the assumptions made by the person without the disability. Antonak and Livneh reported that knowledge of disabilities is an acceptable way to inform and change attitudes toward individuals with disabilities [9]. Gaining knowledge about the disability helps the nondisabled participant better understand the individual with the disability, which can create a more positive attitude [6].
Mentoring programs allow people to interact with individuals with disabilities while providing knowledge to these persons. Mentoring programs in general are popular, extending from the corporate world to first-year teachers in a school district [11]. These programs give a less experienced person (mentee/protégé) a mentor who is more experienced and can help them learn new skills or advance in a career [11]. Mentoring programs have been proven to increase self-esteem, provide a feeling of accomplishment, and for individuals with disabilities, create a positive view of disabilities and living skills [12].

Mentoring programs benefit mentees and the mentors [13]. For those mentoring an individual with a disability, it gives them an opportunity to help the individual become more independent. It also helps the mentor gain experience and knowledge about disability [12]. Although mentoring programs are generally used in employment settings such as schools and businesses, they also can be implemented to help people become more physically active with a role model [13]. Mentoring programs can focus on important health aspects such as developing a consistent physical activity routine at home, or learning how to access community based physical activity programs. This is especially important for individuals with disabilities who don’t have as many opportunities, and possibly lack the skills for independent physical activity.

Increasing physical activity for individuals with disabilities is a public health goal. Individuals with disabilities are more likely to experience health risks associated with an inactive lifestyle such as cardiovascular disease and diabetes, and emotional disorders such as depression and anxiety [14]. Physical activity can help individuals with disabilities prevent these disorders. Besides a healthier life, individuals with disabilities
may have a better psychological outlook, and may experience better moods, less stress, greater overall strength, and functional capacity [14]. Some individuals with disabilities who participate in physical activity on a regular basis feel like they are challenging disability stereotypes and are facilitating personal fulfillment [14]. However, ensuring that these individuals access programs to become more active and healthy and to continue programs can be a challenge. Without significant assistance or mentoring, many persons with disabilities will not participate in any physical activity. With the increasing practice of inclusion for individuals with disabilities into all facets of the community, it is important that attitudes toward this group are positive. Physical activity experiences can lead to social integration and improved health status. Mentoring programs can bring together the positive concepts of community inclusion and health related physical activity.

The purpose of this study was to determine the effects of participation in a physical activity mentoring program on the attitudes of college student mentors towards individuals with disabilities. The study examined attitudes before and after the program to see if attitudes are changed from participating as a physical activity mentor in a program for individuals with disabilities.

Methods

Participants

Participants were 68 college students, ages 19 to 39 years from a Midwest comprehensive public state university. Thirty-six of these students participated in a physical activity mentoring program for individuals with disabilities. There were 19 women and 17 men who served as mentors. Thirty-three students served in the control
group and did not participate as mentors (27 women and 6 men). Control subjects were involved in either a health and wellness course or a psychology course during the same time frame as the physical activity mentoring program.

Measures

Antonak’s Scale Toward Disabled Persons (STDP)

Antonak’s scale toward disabled persons is a multidimensional scale developed to analyze the attitudes toward disabled persons. The STDP consists of 24 items which respondents rate from “I disagree very much” to “I agree very much” [7,8]. The scale does not have a neutral position and scores range from 0 to 144. A higher score indicates a more positive attitude toward individuals with disabilities. The STDP measures three factors: optimism-human rights, behavioral misconceptions, and pessimism-hopelessness [8]. Optimism-human rights measures how positive the subjects attitudes are on issues of human rights and of persons with disabilities who live in the mainstream community. Behavioral misconceptions refer to false impressions that the subject might have about someone. The third subscale, pessimism-hopelessness, measures negative views the subject might have toward persons with disabilities [4]. The STDP has reported Spearman-Brown corrected reliability coefficients ranging from .81 to .85 and alpha coefficients ranging from .88 to .91 [15].

Gething’s Modified Interaction with Disabled Persons Scale (MIDP)

The MIDP measures attitudes in terms of level of discomfort reported by nondisabled people during interaction with individuals with disabilities [7]. Gething’s MIDP consists of 49 items scored on a 6 point Likert scale. The MIDP includes items
about people who are blind, physical disabled, and/or have cancer. Gething suggests that these levels of discomfort are related to lack of knowledge about disabilities and feeling uncertain of how to behave or about what to expect from the other person [7]. The MIDP was developed in Australia to measure discomfort in social interactions with people with disabilities. It has been used in nine different countries, including the U.S., to measure attitudes toward individuals with disabilities [8,10]. The MIDP has reported internal consistency reliabilities in the .74 to .86 range [16]. Loo also has reported the MIDP demonstrates construct and concurrent validity through many studies in different subject areas [16].

**Procedures**

Approval to conduct the study was obtained from the university’s Institutional Review Board for the Protection of Human Subjects. All subjects (mentors and controls) agreed to participate in the study controls were not in the mentoring program. The mentors and control group completed both the STDP and MIDS surveys before the mentoring program started and after the mentoring program ended. Completion of each survey took approximately 20 minutes.

The physical activity mentoring program for individuals with disabilities matched college student mentors with individuals with disabilities (mentees). Mentees were individuals, ages 5 and older, with a variety of disabilities such as autism, cerebral palsy, Down syndrome, and other cognitive, behavioral, and physical disabilities. The physical activity mentoring program was modeled after the U.S. Department of Health and Human Services’ “I Can Do It, You Can Do It” program [17]. Participants engaged in physical activity 2-3 hours a week for 8 consecutive weeks. Before starting the program, mentors
completed a 3-hour training session on policies and procedures of the program and information about selected disabilities. Training included general knowledge about disability characteristics and activities for increasing physical activity levels. After the training sessions, mentors met with the researcher, parent/guardian of mentee, and the mentee to plan physical activity goals for the program. This one-hour meeting took place to help everyone in the program understand all facets of participation. Mentors asked parents/guardians and the participant what physical activities they enjoyed, and possible goals they had for specific activities (i.e., riding a bike, learning how to swim, hiking). Parents/guardians also answered questions regarding specific characteristics of the mentee and offered suggestions for successful participation. The researcher kept in contact with mentors by collecting weekly physical activity logs and answering questions during the 8-week program. Additionally, the researcher implemented group physical activities that brought many mentors and mentees together on a weekly basis. All other mentor/mentee interactions were on a 1-1 basis, resulting in much communication among all involved.

Results

MANOVA was used to analyze the data and descriptive statistics were used to summarize the data. All statistical tests were performed with SPSS version 16 [18]. There were 19 women and 17 men in the mentor group, with a mean age of 22 years. The control group was composed of 27 women and 6 men, with a mean age of 22 years. Education level of participants can be found in Table 1.
An independent sample T-test was used to determine if there was a difference in pretest scores between the mentor and control groups. There was no significant difference in mean scores on both the STDP (p = .334) and MIDS (p = .898). A 2x2 factorial MANOVA was used to determine any group differences in mean scores on both the STDP and the MIDS during the post measures. There was no significant difference for the STDP (p = .753), and no significant difference for the MIDS (p = .087). A MANOVA was done to compare mentor pre and posttest scores for the STDP and the MIDS to examine within group change scores. There was no significant difference for the STDP (p = .307), and no significant difference for the MIDS (p = .614).

Mean scores for each survey were calculated for the mentor and control groups. The mentor group had a mean score of 111 (SD = 15) on the STDP for the pretest, and the control group had a mean score of 115 (SD = 13). The posttest mean score for the mentors on the STDP was 114 (SD = 10) and the control group mean score was 109 (SD = 18). The mentor group had a mean score of 159 (SD = 10) on the MIDS for the pretest and the control group had a score of 159 (SD = 14). The posttest MIDS means for the mentor group was 165 (SD = 10), and the control group 165 (SD = 12) (Table 2).
Table 2
Pre and Post Mean Scores For The STDP and MIDS For Control and Mentors Subjects

<table>
<thead>
<tr>
<th></th>
<th>Pre STDP</th>
<th>Post STDP</th>
<th>Pre MIDS</th>
<th>Post MIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentors</td>
<td>111 ± 15</td>
<td>114 ± 10</td>
<td>159 ± 10</td>
<td>166 ± 10</td>
</tr>
<tr>
<td>Controls</td>
<td>115 ± 13</td>
<td>109 ± 18</td>
<td>159 ± 14</td>
<td>165 ± 12</td>
</tr>
</tbody>
</table>

Knowledge of disabilities was asked in both surveys for the mentor and control groups. Answers ranged from “no knowledge” (1) to “extensive knowledge” (6). The control group had a mean score of 4 for knowledge of disabilities on the presurvey, which indicated “little to no knowledge” about disabilities. The mentor group had a mean score of 4 for knowledge of disabilities, which indicating “little to no knowledge” of disabilities. The control group had a mean score of 4 and the mentor group had a mean score of 5 for knowledge of disabilities on the postsurvey (Table 3).

Both surveys asked about the rate of frequency of contact with individuals with disabilities. Answers ranged from “very infrequent” (1) to “very frequent” (6). The control group had a mean score of 3 on the presurvey, which indicates less frequent contact. The mentor group had a mean score of 4 on the presurvey, which indicates “somewhat frequent” contact with persons with disabilities. The control group had a mean of 3, and the mentors had a mean score of 4 on the postsurvey (Table 3).

Rate of intensity was asked in regard to contact with individuals with disabilities. Participants could select a range of “not at all intense” (1) to “very intense” (6). For the presurvey, the control group had a mean of 3 and the mentor group had a mean of 3. For the postsurvey, the control group reported a mean of 3 and the mentors had a mean of 4 (Table 3).
Table 3
Descriptive Statistics For Means of Mentors and Controls for Knowledge, Frequency, and Intensity

<table>
<thead>
<tr>
<th></th>
<th>Mentors</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Knowledge</td>
<td>4 ± 1</td>
<td>4 ± 1</td>
</tr>
<tr>
<td>Post Knowledge</td>
<td>5 ± 1</td>
<td>4 ± 1</td>
</tr>
<tr>
<td>Pre Frequency</td>
<td>4 ± 2</td>
<td>3 ± 1</td>
</tr>
<tr>
<td>Post Frequency</td>
<td>4 ± 1</td>
<td>3 ± 1</td>
</tr>
<tr>
<td>Pre Intensity</td>
<td>3 ± 1</td>
<td>3 ± 1</td>
</tr>
<tr>
<td>Post Intensity</td>
<td>4 ± 1</td>
<td>3 ± 2</td>
</tr>
</tbody>
</table>

Discussion

The purpose of this study was to determine the effects of participation in a physical activity mentoring program on the attitudes of college mentors towards individuals with disabilities. It was anticipated that the mentoring experience would influence the attitudes of the college student mentors to be more positive versus the control group who did not work with and gain knowledge of individuals with disabilities. However, results did not statistically support this hypothesis since the mentors’ attitudes were not significantly different from the control group. The p value comparing the pre and post MIDS scores of the mentors versus the controls indicated that it was close to being significant (p = .087). This shows that the differences between these two groups were very close to being statistically different towards the attitudes of persons with disabilities.

Limitations of the study were sample size and return rate. The researcher attempted to have at least 30 control subjects in the study by recruiting students who were enrolled in an online class during the program. Only 20 students in the class decided to participate and only 75% of those completed the postsurvey at the end of the study. The low return rate from the control group decreased power for a more in depth statistical
analysis. Controls from the second university course used to complete the survey earned extra credit in their class for doing the presurvey, but earned nothing if they completed the postsurvey. Again many postsurveys were not completed and this may have influenced the results.

The type of subjects in the control group could have also had an affect on the results. The first control group was a freshman level course, which was ideal, because they might not have had experience with persons with disabilities. The second control group was composed of students in a higher-level psychology course. This was not ideal because many of these subjects are well into their area of study. Students taking these higher-level psychology courses might be in education or other areas working or interacting with persons with disabilities. The subjects in the psychology class could have already had a more positive attitude toward persons with disabilities because they have worked with them or learned about different disabilities. Having a control group that has not had experience or knowledge with persons with disabilities would have been ideal because then they would have not yet formed a positive attitude toward this population. Having a group of control subjects to complete pre and postsurveys could have helped in determining if participation in the physical activity mentoring program changed attitudes toward individuals with disabilities.

Having more mentors who had not worked with individuals with disabilities before may have contributed toward a change in attitudes on the surveys. Many of the mentors had extensive experience with individuals with disabilities prior to this study. If more mentors with less experience with persons with disabilities were involved in this study there might have been more of a change in attitude scores. Since there was such a
small sample size of mentors it was difficult to determine a change in attitudes because attitudes were positive to start. Future researchers should consider having a larger sample size of mentors who did not have any experience with individuals with disabilities to assess this exposure to persons with disabilities.

The physical activity mentoring program is a volunteer experience for mentors. Because of this, many of the mentors already had experience with and a desire to work more with individuals with disabilities. That is why a control group was so important to compare scores of attitude surveys. Bergman and Hanson’s research suggested control groups for attitude studies because many volunteer programs recruit participants who are already interested in working with persons with disabilities [19].

In studies on attitudes toward persons with disabilities researchers often encounter the social desirability effect, where participants select the answer that they think society wants them to choose. Attitude surveys such as STDP and MIDS strive to control for this social desirability effect. This is done by the surveys they produced and the questions they ask but the social desirability effect is always a factor that can limit the results of a study. In the present study, the researcher attempted to inhibit the social desirability effect by assuring participants that answers were completely confidential to promote honest responses.

Past attitude research has suggested that to change attitudes a program needs to promote knowledge of disabilities and also interaction between individuals with and without disabilities. [4-6]. The physical activity mentoring program promoted both of those areas. All mentors were required to attend a training workshop that included information about disabilities they might encounter. There may have been a need for
more specific information on the disability of the mentee that the mentor was working with. This information could have included behaviors that the mentee might exhibit, how to motivate the mentee to be more active, and what physical activities might be best for that specific mentee. The training might need to be more specific to each pairs needs and behaviors. Since most mentors did not have specific training on adapting or modifying physical activities for the mentee they were working with, mentors could have felt uncomfortable as to what was appropriate for their mentees. Mentors were told that the physical activity mentoring program staff had resources such as books, DVDs, and curriculum guides to help them be successful with their mentee, but most mentors did not take advantage of this. Specific resources might need to be given to mentors so they have the information at the start of the program.

Even though this study did not test for statistical differences for knowledge, frequency, and interaction with persons with disabilities for mentors and controls, the researcher visually interpreted the data. Although there were no statistical significant differences in attitudes within the mentors from pre to post, the researcher reviewed the descriptive statistics for knowledge, frequency, and intensity of working with individuals with disabilities. It was observed that all means increased for knowledge, frequency, and intensity for all mentors. Researchers have determined that knowledge and interactions with persons with disabilities will change attitudes for the better [4-6]. It is important to specifically look at knowledge and interactions of the mentors with persons with disabilities to see if there was any difference between their knowledge and interactions when they started the mentoring program to when they completed the program.
Analysis of the data included putting mentors into two different groups, those with little to no experience with persons with disabilities and those who had experience. It is essential to measure the increase in knowledge and interaction between mentors and individuals with disabilities because other studies had shown that increased knowledge could change attitudes and interaction could change attitudes [4-6]. Although this study did not show a significant difference, there was a trend in both of these areas which means participation enhanced attitudes of participants toward those with disabilities.

Descriptive statistics were reviewed in the mentor group for the mean score difference between mentors who had “little to no experience” with individuals with disabilities compared to those who had “some to extensive experience”. For the mentors who had “little to no experience” working with individuals with disabilities, pretest mean for the SADP was 103 (SD = 12), and posttest mean was 111 (SD = 8). The MIDS pretest means was 168 (SD = 7), and posttest were 171 (SD = 10). The mentors who had experience with individuals with disabilities prior to the program had a pretest mean score for the SADP as 115 (S = 15) and posttest mean score of 116 (SD = 14). For the MIDS, the mentors had a pretest mean score of 155 (SD = 14) and posttest score mean of 161 (SD = 11) (Table 4).

**Table 4**
Pre and Post Attitude Means For Mentors Who Had No Experience Compared to Mentors Who Did Have Experience

<table>
<thead>
<tr>
<th></th>
<th>Mentors with Little Experience</th>
<th>Mentors with Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre STDP</td>
<td>103 + 12</td>
<td>115 + 15</td>
</tr>
<tr>
<td>Post STDP</td>
<td>111 + 8</td>
<td>116 + 14</td>
</tr>
<tr>
<td>Pre MIDS</td>
<td>168 + 7</td>
<td>155 + 14</td>
</tr>
<tr>
<td>Post MIDS</td>
<td>171 + 9</td>
<td>161 + 11</td>
</tr>
</tbody>
</table>
Many of the mentors had experience with individuals with disabilities prior to participating in the study through their academic majors such as adapted physical education, therapeutic recreation, physical therapy, and physical education. This means they were more likely to have a positive attitude toward individuals with disabilities at the start of the program. Therefore, a significant change in their attitudes would be hard to accomplish. The number of volunteers for the mentoring program was low, making it much harder to show a small difference within attitude change. This information is important for future researchers to consider when studying attitudes toward persons with disabilities through a physical activity mentoring program. Such a program gives its volunteer mentors an opportunity to not only gain knowledge about persons with disabilities, but also the chance to work one-on-one with them to learn about how disability affects their everyday life.

This study was designed to determine if participation as a mentor for a person with a disability would increase the attitudes of college student toward individuals with disabilities. The concept of mentoring programs is not new but focusing on physical activity via mentoring is a relatively recent initiative. More research is needed to determine if participation in physical activity mentoring programs for persons with disabilities can positively impact the attitudes of the mentors. Anecdotal feedback from the present study found that mentors were more inclined to continue their interactions with individuals with disabilities because of their positive experience in the mentoring program. Some mentors even reported changing academic majors after the program to fields working with individuals with disabilities.
A physical activity mentoring program is another way to enhance the health of persons with disabilities while improving the attitudes of mentors toward individuals with disabilities. Improving attitudes of college students is important because they might be working with individuals with disabilities in their professions. Without the proper attitude, these future professionals may not give adequate services to persons with disabilities leading to a lower quality of life.

**Conclusion**

Continuing to study if mentoring programs can change attitudes of participants is important to determine if they enhance knowledge and interactions. Physical activity mentoring programs allow persons with disabilities to not only be more active but also be more involved in the communities which they live. Mentoring programs need continued study to determine the affects they have not only the mentors but also the mentees. The mentees might experience increased physical activity levels in addition to learning about how to be more independent. Mentors might not change their attitudes, but mentees may improve their health status from the program. Research should also be done on what the mentee experiences and learns through physical activity mentoring programs. The mentor might learn about a certain disability and also about how to interact and teach persons with disabilities. The increased knowledge and interaction with that person can lead to more positive attitude towards individuals with disabilities. More research should be done on the effect of physical activity mentoring program for persons with disabilities because there is a dearth of this type of literature.

*Acknowledgments*
The research was partially supported by a grant from Slippery Rock University, PA and the Division of Nutrition Research Coordination of the National Institutes of Health.
References


APPENDIX A
INFORMED CONSENT
Title of Study: The Effects of Participation in the Physical Activity Mentoring Program on the Attitudes of College Students Toward Individuals with Disabilities.

Researcher: Tanya Shull, Graduate Student, Department of Exercise and Sport Science

PLEASE READ THE FOLLOWING INFORMATION TO BE SURE YOU ARE INFORMED ABOUT THIS RESEARCH STUDY. SIGN THE FORM IF YOU AGREE TO PARTICIPATE. YOUR SIGNATURE ON THE FORM CONFIRMS THAT YOU HAVE BEEN INFORMED OF THE NATURE AND RISKS OF PARTICIPATION AND THAT YOU HAVE MADE YOUR DECISION FREELY.

Why is this research study being done?

This study is being conducted to:

- Determine the effects of participation in a mentoring program on the attitudes of college students toward individuals with disability.

How many people will take part in the study?

The plan is to have about 60 college student physical activity mentors take part in this study. These mentors will be college students who meet selection and eligibility criteria. Each mentor will work one-on-one with a person who has a disability. There will also be 60 individuals who will participate in a control group and not participate in the Physical Activity Mentoring Program. The control group will be enrolled in a HPR 105 course in the summer of 2009.

Why are you being asked to take part in this research study?

You are being asked to take part in this study because you responded to a request for volunteers to serve as physical activity mentors for persons with disabilities, or you are apart of the control group.

What will happen in this study?

You will be assigned to mentor a person with a disability in the UW-L physical activity mentoring program. Physical activities could include such things as a one-on-one fitness program at the YMCA or another facility, indoor or outdoor physical activities, in approved university facilities or assisting your mentee in a youth sports program such as soccer, basketball, or baseball. Prior to working with a mentee, you will participate in a two hour workshop that presents the policies, procedures, and your roles as a mentor. During the study, mentors will complete at the start and end of the program two surveys that measures attitudes toward persons with disability. The surveys should not take more then an hour to complete. If you are part of the control group you will only take the pre and post survey. Program staff will match you with a mentee and you will be informed about your mentee’s needs and disability. Based on your mentee’s needs, this training could include information on the use of modified equipment, how to address possible behavioral concerns, emergency procedures, and how to adapt physical activities. Mentors will be required to be First Aid and CPR certified prior to working with your mentee. If you do not have this certification we will offer workshops free of charge to obtain this certification.
How long will I be in the research study?

The mentoring program is eight weeks in length. Mentors will take part in a two hour orientation session a week before the program to discuss policies, procedures, and disability types they might be working with (Orientation session outline attached).

Are there reasons I might leave the study early?

Taking part in this research study is your voluntary decision. You may decide to stop at any time without penalty. You should tell the researcher if you need to stop and you will be informed if any additional information is needed from you. In addition, the researchers may stop you from taking part in this study at any time if it is in your best interest, if you do not follow the study procedures, or if the study is stopped.

What are the risks of the study?

There are no anticipated risks in this study for physical activity mentors or control group subjects. There could be minor muscle soreness, muscle sprains, or muscle strains as a result in participation in physical activity. As a physical activity mentor, your participation will involve light to moderate exercise and other physical activities. Mentors will be required to carry a cell phone while they are with their mentee in case of emergency. However, no risk is anticipated beyond that experienced in normal physical activity by a healthy adult.

Are there benefits to taking part in this research study?

The possible benefits of being in this study include increased physical activity while you serve as a physical activity mentor, enhanced understanding of the benefits of physical activity for persons with and without disabilities, a more in-depth understanding of persons with disabilities, and an increased knowledge about individuals with disabilities. However, the study may not improve your health.

Will I receive payment for participation?

No subjects (Physical Activity mentors) will be paid for participation in the study or for any type of unauthorized expenses incurred during the study.

What happens if I am injured while in this research study?

In the unlikely event that any injury or illness occurs as a result of this research, the Board of Regents of the University of Wisconsin System, and the University of Wisconsin-La Crosse, their officers, agents, and employees, do not automatically provide reimbursement for medical care or other compensation. I have been informed that payment for treatment of any injury or illness must be provided by me or my third-party payor, such as my health insurer or Medicare. If any injury or illness occurs in the course of research, or for more information, I will notify the investigator in charge. I have been informed that I am not waiving any rights that I may have for injury resulting from negligence of any person or the institution.

For information about policies, the conduct of the study, or the rights of research subjects, please contact Bart Van Voorhis, Ph.D., Chair of the University of Wisconsin-La Crosse Institutional Review Board (IRB) for the Protection of Human Subjects (608-785-6892; vanvoorh.bart@uwlax.edu). The IRB is a group of people who review the research to protect your rights.
What are my rights if I take part in this research study?

Taking part in this research study does not take away any other rights or benefits you might have if you did not take part in the study. Taking part in this study does not give you any special privileges. You will not be penalized in any way if you decide not to take part or if you stop participation after you start the study. You will be told of important new findings or any changes in the study or procedures that may affect you or your willingness to continue in the study.

What about confidentiality?

Information from this study may be published or presented at professional meetings. However, your name and other personal identifying information will not be used without your written permission unless the law allows it. Your confidentiality will be maintained by using only a personal identification number on the surveys.

Who can answer my questions?

You may talk with researcher, Tanya Shull (608-785-8695): shull.tany@students.uwlax.edu or the faculty advisor, Dr. Garth Tymeson (608-785-5415) about questions you may have regarding this study.

I HAVE READ ALL THE ABOVE, ASKED QUESTIONS, RECEIVED ANSWERS CONCERNING MY QUESTIONS, AND I WILLINGLY GIVE MY CONSENT TO PARTICIPATE IN THIS STUDY. UPON SIGNING THIS FORM, I WILL RECEIVE A COPY.

(Date) (Signature of Participant)

(Date) (Signature of Individual Obtaining Consent)
APPENDIX B
ATTITUDE SURVEYS
**Modified Issues in Disability Scale (MIDS) Research**

Here is how you should rate the items.

1 = Strongly disagree
2 = Disagree
3 = Somewhat disagree
4 = Somewhat agree
5 = Agree
6 = Strongly agree

Please rate all the items. Also, please make a separate judgment for each item. Do not look back and forth through the statements or try to remember how you rated similar items before.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The majority of adolescents with physical disabilities should attend special schools which are specifically designed to meet their needs.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>2.</td>
<td>Certain jobs should be set aside for blind persons so that they don't have to compete directly with persons who do not have disabilities</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>3.</td>
<td>Zoning laws should not prohibit group homes for people with disabilities from being established in residential districts.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>4.</td>
<td>If you are talking to a blind person, it is all right to use words such as &quot;see&quot; or &quot;look&quot; in a conversation.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>5.</td>
<td>People who have disabilities should have to pay income taxes.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>6.</td>
<td>Children who have disabilities should not have to compete academically with children who do not have disabilities.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>7.</td>
<td>With the current trend in industrial technology, there will probably be fewer jobs in the future that people with physical disabilities can do.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>8.</td>
<td>Most people who have physical disabilities expect no more love and reassurance than anyone else.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>9.</td>
<td>If you are walking with a blind person, it is easier for her/him to take your arm than for you to take her/his arm.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<td>10.</td>
<td>Drivers who have physical disabilities should pay more than drivers who do not have disabilities for their automobile insurance</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>11.</td>
<td>It is more humane to allow a child with a severe disability to die at birth than for her/him to live as a person with a severe disability.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>12.</td>
<td>Efforts to place people with physical disabilities who have been institutionalized back in the community are really pressing them to do more than they are capable of doing.</td>
<td>SD, D, SWD, SWA, A, SA</td>
</tr>
<tr>
<td>13.</td>
<td>If a person with epilepsy becomes angry with people over little things, it should be overlooked because of his/her disability.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>14.</td>
<td>People who have disabilities are generally easier to get along with than people who do not have disabilities.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>15.</td>
<td>Parents of teenagers who have disabilities should be as strict as any other parents.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>16.</td>
<td>It is unwise for a person with cancer to have children.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>17.</td>
<td>Sheltered workshops (noncompetitive factory work exclusively for persons with disabilities) cannot adequately solve the employment problems of people who have disabilities.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>18.</td>
<td>People with physical disabilities should be expected to meet the same vocational standards as other people.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>19.</td>
<td>People with severe disabilities are no harder to get along with than those with minor disabilities.</td>
<td>SD, D, SWD, SWA, A, SA</td>
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<tr>
<td>20</td>
<td>People who have physical disabilities are usually easy-going and seldom get angry.</td>
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<tr>
<td>21</td>
<td>One should avoid asking people who have disabilities questions about their disabilities</td>
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<tr>
<td>22</td>
<td>People with disabilities don't have enough influence in politics</td>
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<tr>
<td>23</td>
<td>Income from taxes paid by an employed person who has a disability is usually greater than the amount of money spent to put that person back to work</td>
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<tr>
<td>24</td>
<td>People with physical disabilities should get special certification from their physicians in order to apply for a marriage license</td>
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<tr>
<td>25</td>
<td>All children with physical disabilities should be integrated into the regular school system</td>
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<tr>
<td>26</td>
<td>Wheelchair users frequently have bowel or bladder &quot;accidents&quot; (i.e., they can't get to the bathroom in time)</td>
<td></td>
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<tr>
<td>27</td>
<td>Educational programs for students who have physical disabilities are very expensive in relation to what children with disabilities gain from them</td>
<td></td>
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<tr>
<td>28</td>
<td>Most blind people are capable of maintaining a clean, attractive home</td>
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<tr>
<td>29</td>
<td>It is not a good idea to leave a small child with a babysitter who has diabetes</td>
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<tr>
<td>30</td>
<td>You have to be especially careful what you say when you are with a person who has a physical disability</td>
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<tr>
<td>31</td>
<td>People who have disabilities are generally no more anxious or tense than people who do not have disabilities</td>
<td></td>
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<tr>
<td>32</td>
<td>Adequate housing for people who have disabilities is neither too expensive nor too difficult to build</td>
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<tr>
<td>33</td>
<td>Teachers should not expect students who have epilepsy to participate fully in physical education activities</td>
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</tr>
<tr>
<td>34</td>
<td>Trained workers who use wheelchairs are no more likely than equally trained workers without disabilities to have accidents on the job</td>
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<tr>
<td>35</td>
<td>People with disabilities are no more likely than people without disabilities to be churchgoers</td>
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<tr>
<td>36</td>
<td>Since a physical disability interferes with certain activities, the disability is foremost in the mind of a person with a disability practically all the time</td>
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<tr>
<td>37</td>
<td>Blind people, compared to people who are not blind, tend to get a more accurate first impression of strangers</td>
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<tr>
<td>38</td>
<td>The placement of children who have physical disabilities into regular classes improves the acceptance of children with disabilities by their peers</td>
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<tr>
<td>39</td>
<td>A man or a woman with a physical disability is much more likely than a person without a disability to have a child who will also have a disability</td>
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<tr>
<td>40</td>
<td>For a person with a severe disability, the kindness of others is more important than any educational program</td>
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<tr>
<td>41</td>
<td>People who have disabilities are more accident prone than people who do not have disabilities</td>
<td></td>
</tr>
</tbody>
</table>
42 Most people who have disabilities would rather socialize with others who also have disabilities than with people who do not have disabilities.

43 Employers' attitudes are a greater handicap than lack of ability to a person with a disability.

44 A high school student with a physical disability will probably feel inadequate in a regular classroom.

45 Drivers with physical disabilities have more automobile accidents than drivers without disabilities.

46 Many men who are wheelchair users are able to have children of their own.

47 People with disabilities should be expected to fit into our competitive society.

48 It would be much easier for people who have disabilities if they lived in residential units (e.g., apartment buildings) with others who also have disabilities.

49 It is logical for a woman who uses a wheelchair to consider having a baby.

THANK YOU VERY MUCH FOR PARTICIPATING IN THIS RESEARCH.
Directions: The statements presented below express opinions or ideas about persons who are disabled. There are many differences of opinion; many persons agree and many persons disagree with each statement. We would like to know your opinion about them. On the separate answer sheet, circle the appropriate number, from -3 to +3, that corresponds best with how you feel about the 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.

Please respond to every statement.

**KEY**
-3: I disagree very much
-2: I disagree pretty much
-1: I disagree a little
+1: I agree a little
+2: I agree pretty much
+3: I agree very much

1. Children who are disabled should not be provided with a free public education.
2. Persons who are disabled are not more accident prone than are other people.
3. Individuals who are disabled are not capable of making moral decisions.
4. Persons who are disabled should be prevented from having children.
5. Persons who are disabled should be allowed to live where and how they choose.
6. Adequate housing for persons who are disabled is neither too expensive nor too difficult to build.
7. Rehabilitation programs for persons who are disabled are too expensive to operate.
8. Persons who are disabled are in many ways like children.
9. Persons who are disabled need only the proper environment and opportunity to develop and express criminal tendencies.
10. Adults who are disabled should be involuntarily committed to an institution following arrest.
11. Most persons who are disabled are willing to work.
12. Individuals who are disabled are able to adjust to life outside an institution.
13. Adults who are disabled should not be prohibited from obtaining a driver’s license.
14. Persons who are disabled should live with others who are similarly disabled.
15. Zoning ordinances should not discriminate against persons who are disabled by prohibiting group homes in residential districts.
16. The opportunity for gainful employment should be provided to persons who are disabled.
17. Children who are disabled in regular classrooms have an adverse effect on other children.
18. Simple repetitive work is appropriate for persons who are disabled.
19. Persons who are disabled show a deviant personality profile.
20. Equal employment opportunities should be available to individuals who are disabled.
21. Laws to prevent employers from discriminating against persons who are disabled should be passed.
22. Persons who are disabled engage in bizarre and deviant sexual activity.
23. Workers who are disabled should receive at least the minimum wage established for their jobs.
24. Individuals who are disabled can be expected to fit into our competitive society.

Thank You For Your Assistance In Responding To This Questionnaire

Richard F. Antonak  SADP-Form R Revised ©1992
APPENDIX C

REVIEW OF LITERATURE
REVIEW OF RELATED LITERATURE

Introduction

Research on individuals with disabilities is extensive and explores many areas. In particular, researchers have spent much time studying attitudes of people toward individuals with disabilities, the effects of physical activity on individuals with disability, and many others aspects of life that impact these persons (Barr & Bracchitta 2008; Giacobbi, Stancil, Hardin, & Bryant, 2008). All this research has potential to help improve the quality of life for individuals with disabilities, and to also give people without disabilities resources to help them understand how to support persons with disabilities.

Increasing physical activity among individuals with disabilities is a public health goal (Surgeon General, 2005). Helping these individuals access programs to learn how to become more active and healthy is critical. Starting and continuing a physical activity program can be a challenge for people with disabilities. These persons are more likely to experience health risks associated with an inactive lifestyle, such as cardiovascular disease, diabetes, and emotional disorders (Giacobbi et. al.). Physical activity can assist individuals with disabilities by helping prevent these disorders (Giacobbi et al.). Besides a healthier life, individuals with disabilities will experience a better psychological state, better moods, less stress, and greater strength and functional capacity (Giacobbi et al.). However, without significant assistance many persons with disabilities will not
participate in physical activities. Participating in physical activity can also be a challenge because of the attitudes of nondisabled people in the community. If nondisabled people have a negative attitudes towards individuals with disabilities, they may not feel comfortable participating in physical activity and not reap the benefits.

The attitudes of people toward individuals with disabilities have long been a topic for researchers. Understanding the attitudes of nondisabled people toward individuals with disabilities can explain many aspects of both groups’ behaviors, expectations, and interactions. For example, negative attitudes build barriers that restrict people from participating to the fullest in their communities, schools, and the work place (Antonak & Livneh, 2000; Barr & Bracchitta, 2008; McCaughey & Strohmer, 2005; Perry, Ivy, Conner, & Shelar). Examining the attitudes of people towards individuals with disabilities is important so that change can be made to transform those attitudes to be more positive (Antonak & Livneh).

Attitudes are defined as reflections of deep-seated values and a pervasive force driving how people choose to act and respond to others (McCaughey & Strohmer, 2005). These values can build negative attitudes toward a group of people and create barriers for that group. Not only are barriers built between people but also discriminatory behavior and stereotypical responses towards a group of individuals (Antonack & Livneh, 1995; McCaugey & Strohmer, 2005). To break down barriers and build independence within individuals with disabilities, researchers need to focus on how to improve attitudes toward individuals with disabilities and how to implement those changes.
One way to build independence among individuals with disabilities and help individuals without disabilities gain knowledge of this population is a mentoring program. Mentoring programs are popular, from big business to a first year teacher in a new school district (Stumbo, Lewis, & Blegen, 2008). Mentoring programs are developed to give a less experienced person (mentee/protégé) a mentor who is more experienced (Stumbo et al., 2008). Mentoring programs have been proven to increase self-esteem, give a feeling of accomplishment, and for individuals with disabilities, provide a positive view on disabilities and living skills (Powers, Sowers, & Stevens, 1995). Mentoring programs should benefit mentees and mentors. For those who are mentoring an individual with a disability it gives them an opportunity to help the person become more independent. For mentors, it gives them an experience to gain knowledge about that disability leading to a more positive attitude (Powers et al., 1995). Mentoring programs are used in community settings such as schools and business, but they also can be implemented to help people become more physically active. Mentoring programs can focus on becoming healthier, active, or more physically fit. This is especially important for individuals with disabilities who don’t have as many opportunities for independent physical activity as their nondisabled peers.

The present study determined the effects of participation in a physical activity mentoring program on the attitudes of college students towards individuals with disabilities. This literature review includes the following topics: benefits of physical activity for individuals with disabilities; effects of mentoring on individuals with disabilities; and importance of attitudes change toward individuals with disabilities.
Benefits of Physical Activity for Individuals with Disabilities

Physical activity is not only important for persons without disabilities, but is even more critical for individuals with disabilities. Many studies have proven that physical activity not only decreases disease, but also increases quality of life and helps individuals with disabilities feel better about themselves.

Giacobbi, Stancil, Haridin, and Bryant (2008) investigated the impact of physical activity on individuals with disabilities and how their quality of life was affected. The study of quality of life is important especially among individuals with disabilities. It has been shown that quality of life effects physical and mental health, happiness at work, and satisfaction in relationships (Giacobbi et al. 2008). One way of defining and measuring quality of life is based on health status or health related quality of life.

Giacobbi et al. (2008) examined the link between physical activity and quality of life among individuals with disabilities. The researchers also focused on why participants initiated physical activity and why they continued. Participants in the study were 12 males and 14 females ranging in age from 18 to 54 years. Participants included persons with spina bifida and cerebral palsy. Of the 26 participants, 25 participated in wheelchair basketball competitively for an average of 9 years.

Two measures were used to assess physical activity level and how it affected the participant’s quality of life. The Physical Activity Scale for Individuals with Physical Disabilities was utilized to measure physical activity, health, and overall function for individuals with disabilities (Giacobbi et al. 2008). Respondents were asked to identify how often they participated in different activities, ranging from home repair/lawn and
garden work to vigorous sports and recreation. Participants were recruited from a basketball camp and asked to complete the survey and participate in an interview.

The researchers found that the participants were involved in structured physical activity, especially basketball, which was to be expected because the researcher recruited participants from a wheelchair basketball camp (Giacobbi et al. 2008). After the interview, the researchers found common themes that participants discussed. These themes included psychological benefits, physical health, social influences, social opportunities, and increased overall quality of life (Giacobbi et al.). These themes were categorized into cognitive benefits, emotional benefits, behavioral benefits, and self-perception. Participants addressed cognitive benefits outside of learning about basketball but also gaining mental strength to deal with life situations. A psychological benefit that participants expressed was a general positive affect on life, decreases in negative affect or stress relief (Giacobbi et al.). Physical health benefits included being more physically fit and being able to do more activity even with a disability. Social influences were also categorized from the participants interviews. Social influences and social opportunities are the idea that meeting people through sports and physical activity is easier than other areas. All of these factors are included in the quality of life definition but participants specifically talked about feeling that their life was at a higher quality because of their participation in sport or physical activity (Giacobbi et al.).

Understanding how physical activity affects individuals with disabilities is important. It is also important to determine if physical activity affects the physiological aspects of the body or if it also affects cognitive aspects of the athletes. Giacobbi et al. (2008) found that wheelchair basketball players felt all of these things because they
participated regularly in sport. Quality of life had increased because they had a means to be active and stay active because of support systems that were built into activity.

Determining the long term effects of exercise on individuals with disabilities is also important. Hicks, Martin, Ditor, Latimer, Craven, Bugaresti, and McCartney (2003) examined the effects of a long term exercise training program on individuals with spinal cord injuries. Hicks et al. (2003) investigated the effects of an exercise training program that took place 2 days a week for 9 months. It was hypothesized that participants would increase overall strength, improve exercise capacity, and gain positive changes in quality of life. Participants in the study were 34 men and women between the ages of 19 and 65 who had spinal cord injuries. Subjects were placed into two groups: the exercise group (n = 21) or a control group (n = 13). The exercise group was larger because the researchers believed that participants from the exercise group might not finish the program and they were concerned about having a high enough power within their results to make the study significant (Hicks et al., 2003).

Hicks et al. (2003) used eight tests to measure strength, cardiovascular health, and quality of life. To test heart rate/power output the researchers used an arm ergometer. Participants performed three 4-5 minutes steady state workloads on the ergometer with output at 40, 60, and 80% (Hicks et al.). For muscle strength, participants used a wheelchair accessible weight training system or unilateral wall pulleys (Hicks et al.). Each participant completed one repetition of maximal load on chest press, elbow flexion, and shoulder flexion maneuvers to test muscle strength. Participants were also tested on measures such as depression, physical self-concept, pain, perceived health, and quality of life.
The training intervention was composed of 90-120 minute sessions. Sessions started with a warm up that included wheeling around an indoor track or low intensity arm ergometry. Sessions continued with upper body stretching, and then an aerobic portion of training at 70% maximum heart rate. For muscle strength, participants used wall pulleys, free weights, and a weight machine. Initially participants did two sets of each exercise, but as time progressed participants did three sets. The researcher reassessed weight intensity initially every 4 weeks, and then every 6 weeks so that participants continued to have a constant training effect (Hicks et al. 2003).

Hicks et al. (2003) predicted that some participants in the exercise training program would drop out in the 9 months and they were correct. The program started with 21 participants and ended with 13. Hicks et al. found that an exercise program that was held two times a week for 9 months had many benefits including increasing strength, arm ergometry performance, as well as several components reflecting quality of life and psychological well being. Researchers also found that all aspects of quality of life increased from the start of the training to the end. Participants reported a decline in stress, pain, and depression and enhanced physical self-concept and overall quality of life (Hicks et al.). Hicks et al. found that quality of life improved in participants with spinal cord injuries because the exercise program helped manage pain, and participants felt like they had more control over their body and how they felt. Social interaction within the group was also a positive impact of the program.

The results of Hicks et al. (2003) are very important to the current study because they shows that exercise and activity among individuals with disabilities can enhance many different aspects of life. Not only were participants healthier, but also they were
socializing with others and felt better about themselves and their disability. Socialization and activity are very much related and it is important to understand this relation as it applies to individuals with disabilities. Mentoring programs can help individuals with disabilities develop socialization among peers, while also increasing physical activity.

Motivating some individuals with disabilities to be active can be very hard. There are many barriers that are put up by themselves, society, family, friends, and organizations that limit individuals with disabilities to be physically active. Temple and Walkley (2007) addressed three barriers that individuals with cognitive disabilities face to becoming and staying active. The first barrier was demographic and biological factors such as age, type, and severity of disability. Gender was not a factor because it seems that both male and females are inactive (Temple & Walkley, 2007). The second barrier discussed was psychological, cognitive, and emotional factors, such as motivation and cognitive-emotional barriers (Temple & Walkley, 2007). The last barrier the researchers discuss was social and physical environment factors such as limited options in the community, limited income, low client to staff ratio, low expectations for individuals with disabilities, and cost of participation (Temple & Walkley, 2007). With these types of barriers for individuals with cognitive disabilities it is a struggle to not only become active, but also to stay active.

Temple and Walkley (2007) explored the factors that people with cognitive disabilities feel enabled or inhibited their participation in physical activity. The researchers asked staff, managers, parents, and people with cognitive disabilities what they perceived as factors that predispose, enable, or reinforce participation in physical activity. The researchers had six focus groups for adults with cognitive disabilities (n= 9),
direct care workers (n = 5), group home supervisors (n = 9), metropolitan (n = 6), managers (n = 4), and parents (n = 7). Researchers started the focus groups by describing the purpose of the study and the definition of moderate intensity activity to help the participants clarify what activity might be included. Researchers used NVivo software to analyze data to look for reoccurring themes within each focus group (Walkley & Temple, 2007).

Three themes were discovered; motivation for participation, social support, and political and financial support. Many times parents and staff answered questions differently from the individuals with the disability. Staff and parents stated that individuals with cognitive disabilities lacked motivation to be active and preferred to be sedentary. In contrast, the individuals with cognitive disabilities expressed that they enjoyed being a part of a team and enjoyed going to the fitness center for activity (Walkley & Temple). They did convey that sometimes they didn’t feel supported when they wanted to do activity because of lack of funding or someone to help them be successful in the fitness center. It was important for these individuals to have support to be active because they didn’t feel comfortable doing it by themselves.

Social support was crucial for success among all groups. Staff working with these individuals were not knowledgeable about physical activity and staff that were knowledgeable about physical activity were not familiar with working with this population. Not having a staff member being knowledgeable or interested in physical activity will lead to the participant not being active because they don’t have the support to learn about a new activity. When staff and parents did have knowledge about different
activities the participants really enjoyed going to the activity and participating with everyone there.

Political and financial support was also a reoccurring theme throughout the focus groups. Transportation was a major problem for all. If someone was interested in doing an activity participants would have to rotate and maybe not do that activity so someone else could have the opportunity (Temple & Walkley). Parents and staff felt that physical activity was not valued and that is why it wasn’t important to always have transportation or staff to help individual be active. It is critical that all aspects of group homes for individuals with disabilities feel like they are supported in regard to physical activity. If people don’t value physical activity the opportunity will not emerge for these individuals (Temple & Walkley).

Temple and Walkley (2007) addressed some key factors for maintaining activity in individuals with disabilities. Participants need to be motivated to be active and have the opportunity to be successful. If participants try an activity and aren’t motivated they might need an extrinsic motivation to help encourage them to keep up with the activity (Temple & Walkley). Individuals with disabilities also need financial support and transportation to help them continue to be active. If they don’t feel supported they might feel like they aren’t being successful and then associate physical activity as negative (Temple & Walkely). Having someone who is knowledgeable about the activity to give support and motivation will help these individuals start and continue being physically active.
Effects of Mentoring on Individuals with Disabilities

Mentoring programs are very beneficial to many people. Individuals with disabilities can benefit from a mentor who can help them learn and apply new skills. Mentoring programs are developed to give a less experienced person (mentee/protégé) a mentor who is more experienced and can help them learn a new skill or help them advance in a career. Mentoring programs have been proven to increase self-esteem, give participants a feeling of accomplishment, and for individuals with disabilities, it gives them a positive view on disabilities and living skills.

Stumbo, Lewis, and Blegen (2008) reviewed two different mentoring programs that matched individuals with disabilities with a mentor to help transition from high school to college. The two programs reviewed were based at Midwest universities. The programs were different in some aspects but wanted to accomplish the same thing; mentors were to help the mentee learn about transitions and how to be successful, accommodations, self-advocacy, and study skills (Stumbo et al., 2008). Mentors had three options for communicating with their mentees; they could communicate through the computer, meet face to face, or use both techniques (Stumbo et al.). Participants met at least once a month using any of the techniques.

The first program set out to recruit at least 60 individuals with disabilities from local high schools. Mentors were college students. Mentors and mentees were matched based on gender, and had little regard toward disability type and field of interest (Stumbo et al., 2005). This program had ten mentees and five mentors. The benefit of the smaller number was that pairs could be matched more specifically to their area of study and
disability. Many of the participants preferred meeting face to face rather than communicating through the Internet. This program did not have a structured routine and requirements for their participants. Staff wanted to keep the relationships natural, and let them develop on their own (Stumbo et al.). Mentors, mentees, and their parents attended a session that explained the program and what was going to happen but there were no other requirements besides meeting and talking at least once a month. Mentors were encouraged to start conversations if mentees didn’t seem to have any questions but there were no requirements on what should be talked about (Stumbo et al.).

In this program, mentors and mentees met once a month and talked about challenges of college. After each meeting both the mentors and mentees completed a survey that asked them how they felt about the session and what other things that they might want to talk about the next time they met (Stumbo et al., 2008). The program decided to focus more on prompting the mentee to ask more questions and helping them to develop questions to talk about with the mentor.

The second program reviewed had built-in participants. The university had a dorm for individuals with disabilities who were enrolled and needed assistance (Stumbo et al., 2008). This mentoring program also used a wide variety of mentors and mentees. Mentors could be students at the university or alumni who were mentoring upperclassmen who were getting ready to graduate and transition into jobs. Mentees included those who needed assistance transitioning into the university or upperclassmen who will be graduating soon (Stumbo et al.). Participants in this program were matched based on similar disabilities, and similar career tracks to help questions relative to both their interest. Mentors in this program went through a more extensive training about goal
writing, role modeling, and discussing difficult situations that could occur. Mentors and mentees met at least once a week and communicated by emails, telephone calls, or notes during the week (Stumbo et al.). During the program mentors and mentees met once a month with program staff to talk over any concerns. They also attended workshops, such as time management and transportation needs. This second program did not conduct any post program measures because they met with the pairs at least once a month to address any problems that occurred.

Reviewing mentoring programs and how they are implemented allows researchers to understand what programs work and what aspects of the program work. The way programs match their mentors and mentees and how they train the mentors are critical to the success of a program. This study reviewed two programs that had some similarities and differences. These two programs were also in different stages of development. One program had been implemented for several years and the other was just started.

Implementing a mentoring program can be challenging but essential for many persons to have success. Developing mentoring programs for individuals with disabilities can also be a daunting task. Powers, Sowers, and Stevens (1995) studied the impact of mentoring on the self-efficacy and community based knowledge of adolescents with severe physical disabilities. The researchers matched ten youth (ages 12-19) with mentors who had similar physical disabilities. The ten youth who participated were characterized as having severe physical disabilities (4 participants). Two of these students also had a cognitive disability (Powers et al., 1995). The other participants had moderate physical disabilities with low to average cognitive ability.
To test self-efficacy of participants the researchers used the Self Efficacy Scale, which measures self-efficacy in task related and social domains (Powers et al., 1995). Two other questionnaires were developed to measure the knowledge and confidence level of participants regarding specific community based issues and strategies (Powers et al.). A pre-assessment of activity in the community was given to participants to determine how much experience with community based activities they had. Researchers assumed older participants would have more experience with such tasks as getting on the bus (Powers et al.). Participants who had more experience with community based activities did not receive a mentor and acted as a control group.

Mentors were recruited through an independent living program. All mentors had a physical disability and went through an application and interview process. Once mentors were selected and matched with one of the participants the researchers met with the mentor, the participant, and the family to discuss the policies, procedures, and goals of the program that they would be participating in for the next 6 months. During the program participants were asked to meet with their mentors two times a month for 6 months and complete nine tasks developed by the researchers. Tasks included learning about adapted recreation activities in the community and visiting the mentor’s work place to learn about what accommodations or challenges they might face at work (Powers et al. 1995). During each activity mentors were given worksheets that had key points that the mentor should discuss with the mentee. These training and supports for the mentors and mentees are key aspects of that make programs successful.

Researchers found that participants become more empowered by having a mentor that helped them learn about adaptations to make while living in their community.
Parents also felt that their child was more empowered and also felt they were more comfortable that as the child got older they would be more successful in work and be more active in the community (Powers et al.). Participants self-efficacy did not significantly increase as compared to the control group, but participants did report a feeling of confidence within their own community in activities that they talked about and participated in with their mentor.

This study shows that mentor programs that offer supports for not only the mentors but also the mentees will produce a positive experience by giving mentees a feeling of empowerment and increased self-efficacy. Helping persons realize that they can be active in the community like anyone else is of great value for transition. These individuals are breaking down barriers and stereotypes that persons without disabilities might build because they don’t think individuals with disabilities can be active in the community.

Many mentoring programs for individuals with disabilities focus on transition from one stage of life to another, such as starting college, taking part in the community, or starting a new career. These transitions can either foster a positive experience with support from other people, or they can lead an individual to failure because they weren’t ready for the change and didn’t know what to expect. Research needs to be done to understand what kind of mentoring programs will help foster a successful transition for individuals with disabilities from schools to the community.

A plan to transition from one aspect of life to another is important for everyone and often requires a mentor for assistance. It is especially important for females with
disabilities. Although there are services for everyone to make a plan for a successful transition to work in the schools, women are still less likely to complete high school compared to males (Hogansen, Powers, Geenen, Gil-Kashiwabra, & Powers 2008).

Hogansen et al. 2008 wanted to discovery how transitions can become improved for females with disabilities so that they can take part in better jobs and continue with those jobs. The researchers held focus groups and interviews with people who were involved in the transition process for females with disabilities including: young females with disabilities (n = 67), parents of females with disabilities (n = 34), and professionals (n = 45) who work with them to create these plans (Hogansen et al., 2008). Participants were recruited from special education programs of two major urban schools in the western U.S.

A major purpose of the study was to determine what factors shaped the transitions goals of the participants. Hogansen et al. found five reoccurring themes within all the groups that influenced the goals for transition: mentors, peers, family, teachers, and exposure to opportunities. Mentors or role models were brought up with all groups of participants that were involved in the focus group. Females with disabilities addressed the fact that they had a goal because a prominent woman in her life pushed her, gave support, and suggestions on goals to pursue (Hogansen et al.). Parents talked about having a mentor in their life and how important it was to them, but expressed that their daughter didn’t have a mentor to benefit from, and thought the school should work harder to provide that service, especially transitioning out of high school (Hogansen et al.).
Peers and friends were also a big impact on how females transitioned out of high school. The female participants stated that their friends help encourage them towards their goals. Family support was also influence for making goals and having success in transitioning. Family support was recognized as supportive and enabling (Hogansen et al.). Teachers were recognized as negative for many of the females with disabilities; they reported teachers not being supportive of them being independent and would talk with their parents about the goals more then the student (Hogansen et al.).

Exposing females with disabilities was also a big part of giving them confidence and support (Hogansen et al.). All participants acknowledge that this would be beneficial but it wasn’t happening for them. They were not receiving opportunities to experience new things that other students, with and without disabilities, were practicing.

For individuals with a spinal cord injury, life might seem like it has ended. However that doesn’t have to be the case. When individuals have social supports such as a peer mentor it has been proven that these individuals are more satisfied with life, have higher levels of well being and quality of life, and they also have lower levels of depression, improved employment rates, and fewer health problems (Veith, Sherman, Pellino, & Yasui, 2006). Veith et al. 2006 reported the difference between a peer mentor versus other supports, such as family members or counselors, is that the peer mentor has gone through what the mentee has experienced (or something similar). This means the mentor can help the mentee to face challenges that may come up with success by giving encouragement and advice. The purpose of the study was to describe the areas of adjustment affected by the mentor, identify the dimensions of the mentoring relationship...
that lead to the adjustment, and to understand from the prospective of the mentee why this social support (peer mentor) was more effective than others (Veith et al.).

Participants were recruited from a midwestern hospital inpatient rehabilitation unit (Veith et al. 2006). Mentors and mentees were matched based on level of injury, gender, and age. There were seven mentor mentee pairs that met face to face three times during the study. Mentors received training on how to be an effective mentor to their mentee. Information covered in the training included relationship building, communication skills, maintaining appropriate boundaries, addressing crises, making referrals, and general community resources (Veith et al.).

Mentees were interviewed 1-4 months after they were discharged from the hospital. Interviews were done by phone, recorded, and then transcribed. Researchers coded and analyzed the interviews and reviewed reoccurring themes in each interview (Veith et al., 2006). Themes were characterized as direct and indirect. Direct themes were items that specifically dealt with the spinal cord injury such as practical implications of life, emotional reactions to the injury, and identifying with the new life mentees had after the injury (Veith et al.). These themes were discussed between the mentor and mentee.

Mentors could give first hand knowledge of these themes to the mentee. Mentors explained and helped the mentee learn practical elements of their life that would be different because of the injury. For example, getting ready in the morning, getting into a car from a wheelchair, and modifying their homes so that it is accessible (Veith et al.). Mentors also could offer advice and support in other areas of the mentees life that had changed before they left the rehabilitation center.
Indirect themes were associated with the mentees knowledge of spinal cord injuries before they got injured, the mentees coping style, social supports, and work availability (Veith et al., 2006). Mentees who had no knowledge of spinal cord injuries had no idea of what to expect. Mentors gave them knowledge of the injury and what to expect after the injury (Veith et al.). The way the mentee coped with their injury was something that the researchers could not control. How mentees would react to the injury, and react to the mentor could not be controlled either. Some mentees had a strong internal locus of control. They knew they were going to get through their challenges and continue to live a fruitful life, whether or not someone was going to be there for them to offer support (Veith et al.). Others did need support from outside sources such as a mentor, family, and friends.

Veith et al. (2006) also asked mentees about how they felt their mentor-mentee match up affected the relationship. Mentees reported that availability, age, gender, interest, and sociability, level of injury, timing of intervention, and learning style were the most important factors that affected the mentor-mentee relationship (Veith et al.). Age was a very important aspect of the relationship. If mentors were younger than the mentee the relationship was not as successful because the mentee felt that they could not relate to them and therefore did not feel comfortable talking about issues dealing with the injury (Veith et al.). All mentees appreciated being matched up with a mentor of their same gender and also same level of injury. This made it easier to communicate sensitive subjects and the mentees felt that the mentors understood them more (Veith et al.).

Veith et al. (2006) concluded that a peer mentoring program for individuals with spinal cord injuries was effective in helping mentees accept their new injury and help
them become more knowledgeable about their new life. The researchers did suggest that the mentors and mentees should have met more, and the lack of communication might have led to some unsuccessful match ups. This study is important for the study at hand to indicate that mentoring relationships are important and the time spent in those relationships are associated with success. The more meetings the mentor and mentee had the better the relationship and therefore the more successful the mentee is going to be in the community.

Gafni, Shamai, and Arnon (2001), conducted a study that matched college student mentors with individuals with Down syndrome. The purpose of this study was to have participants with Down syndrome participate in a unique physical activity and help them gain the skills and knowledge to be successful in that activity, to help build communication skills, and strengthen relationships between college students and individuals with disabilities (Gafni et al. 2001). Mentors were students at a university studying physical education, general education, and tourism (Gafni et al.). Mentees were individuals from the community who wanted to participate in a kayaking and swimming program. Mentors and mentees met once a week for seven months and participated in kayaking and swimming activities.

Mentees were observed by recent graduates who were professionals in the field who recorded data on mentee and mentor interaction. Data were divided into two sections; verbal and physical interactions (Gafni et al. 2001). Verbal interactions included instruction, encouraging, asking questions, explaining, persuading, and disapproving comments (Gafni et al.). Physical interactions included touching, holding, caressing, hugging, kissing encouraging, cooperation, and facial expressions such as smiling, anger,
and sadness (Gafni et al.). Observations were taken every three weeks and data collectors consistently observed the same mentees.

After data were collected it was put into two categories of initiation: either mentor to mentee or mentee to mentor. It was also categorized into what kind of interaction it was, either physical or verbal. Gafni et al. 2001 found that the majority of interactions were verbal (47%). The leading type was verbal encouragement (35%). The most frequent physical interaction was holding the mentee to assist with a physical task (34%), which is to be expected for teaching participants how to swim and kayak (Gafni et al.). Mentees interactions were mostly verbal (64%), either initiated by the mentor or the mentee. Of those verbal interactions, about half were questions and the rest were encouraging and instructing. The majority of the verbal interactions were responses to a mentor question or statement.

Although most interactions between the mentors and mentees were mentor initiated, mentees still asked questions which shows that they were interested in the task and curious about an aspect of the objective. Since mentees responded to their mentors instead of initiating an action, it’s important to understand what kind of responses were negative or positive. The researchers’ found that responses were positive and that they were mostly verbal interaction. There was very little physical interaction (Gafni et al., 2001). Mentees not only learned about communication in this study but also swimming and kayaking skills. Mentoring programs can lead to many different outcomes for the mentee, such as increased physical activity, learning a new skills, and learning how to communicate in different ways and with different people. For the mentors who participate in programs like this, they are learning how to interact with individuals with
disabilities. They are also forming better attitudes and learning how to teach a special population.

**Attitudes Towards Individuals with Disabilities**

Studying the attitudes of nondisabled persons towards individuals with disabilities is important to help determine what can make negative attitudes more positive. Promoting positive attitudes toward individuals with disabilities gives them more opportunities to be active in the community. Learning how attitudes are changed to become more positive is an important factor in the study of attitudes and needs to be continued to be researched.

The purpose of Daruwall and Darcy's (2005) study was to examine the role, nature, and impact on disability awareness training on the tourism industry in Australia. Research has found that within this industry employers and employees do not have knowledge of disability types, legislation, access, and services (Daruwall & Darcy 2005).

The researchers conducted data collection two separate times with two different groups to test attitudes towards individuals with disabilities. All subjects participating in the study were involved in the tourist industry. One group of participants was from a technical college and a university; the second group of participants took part in an organization that was implementing disability awareness training (Daruwall & Darcy). The second collection time consisted of participants from a tourism organization and from government employees. A total of 312 people participated in the study. The majority were female (67%) and the majority of participants (52%) identified themselves
as interacting with an individual with a disability less than once a month (Daruwall & Darcy).

The researchers made three groups of participants: a control group that did not receive any disability training or interaction, a group that received lecture and video intervention, and the last group received lecture, video, role play, and contact with individuals with disabilities (Daruwall & Darcy 2005). The participants took two surveys three different times during the study; before the intervention, after, and one month later (Daruwall & Darcy). The researchers used the Interaction with Disabled Persons Scale and the Scale of Attitudes Towards Disabled Persons.

Daruwall and Darcy (2005) found that it was possible to alter attitudes through an intervention program. They also found that the group of participants who received not only knowledge of individuals with disabilities but also interacted with them, had more positive attitudes towards disabilities. They also kept the attitude longer than the participants who did not interact with anyone (Daruwall & Darcy 2005). The researchers also found that students who had more experience and more knowledge held longer lasting attitudes change as opposed to participants who were just starting their education.

Daruwall and Darcy’s (2005) study is important to the current study because it shows that not only is knowledge important in changing attitudes but also interaction and experience with individuals with disabilities. Daruwall and Darcy found that attitudes were initially changed with only knowledge of disabilities, but those positive attitudes did not carry over a month later. To reinforce positive attitudes through someone’s life and career they need to have interaction with someone with a disability. It is important to
continue to study what kind of interaction and experience with individuals with disabilities lead to more positive and sustained attitudes and what kind of knowledge will help improve attitudes toward individuals with disabilities.

Barr and Bracchitta (2008) also studied how interaction with individuals with disabilities changed attitudes in individuals without disabilities, more specifically undergraduate students majoring in education. The purpose of the study was to examine the effect of contact with individuals with disabilities on attitudes. The researchers wanted to show that the more contact participants had with individuals with disabilities the more likely they were to be education majors, also to prove that participants who had more positive attitudes towards individuals with disabilities were education majors.

Participants in this study were undergraduates who were not education majors (33.6%) and education majors (66.4%). There were 221 participants in the study all who were students from two undergraduate institutions. Subjects were juniors, sophomores, and freshman (Barr & Bracchitta, 2005). Barr and Bracchitta used the Scale of Attitudes Toward Disabled Persons to test the attitudes of participants. The researchers also asked participants if they had any contact with individuals with disabilities and if so, for how long.

The researchers found that there were significantly more women then men between all of the participants, regardless of year (Barr & Barcchitta 2005). The researchers found that junior level participants had more interaction and experience with individuals with disabilities than sophomores and freshman. Barr and Barcchitta found that more contact with individuals with disabilities led to a more positive attitude of
individuals with disabilities. The researcher reported that increased contact allowed nondisabled individuals to gain a more accurate view and a better understanding of individuals with disabilities (Barr & Barcchitt).

This study is important because it helps confirm again, that interaction with individuals with disabilities helps improve attitudes toward these individuals. Education majors are a very important population to determine attitudes toward individuals with disabilities. Every teacher will most likely have a student with a disability and having a positive attitudes towards that individual will either foster a good environment for that child to succeed and learn or it will create a negative environment where a student will struggle.

Determining the attitudes of regular education teachers towards individuals with disabilities is crucial, including among physical education teachers. In Stewart’s (1990) study undergraduate physical education majors involved in an adapted physical education class were subjects to determine attitudes towards individuals with disabilities. The purpose of this study was to investigate the effects of four different practicum experiences on the attitudes of physical education major towards individuals with disabilities.

Physical education majors were participating in one of two adapted physical education courses. There were 48 students who participated in the courses, and 43 students participated in a control group who had never taken an adapted physical education course. Within the two courses, four practicum experiences were offered as optional parts of the class: helping prepare individuals with cognitive disabilities in
Special Olympics, assistance in a recreational swim program for persons with physical and cognitive disabilities, assistance in swim program for a senior citizen, or an individualized fitness/recreational program with a students with physical disabilities at the university. Students worked for two hours a week for 10 weeks in their chosen experience. Participants in both the control and experimental groups took the Attitudes Toward Disabled Persons Scale the day the class started and then again at the end of class.

Stewart (1990) found that contact with individuals with disabilities led to a more positive attitude. Stewart also found that participants who worked with individuals within the university had a greater improvement in attitudes than those who worked with an older population. These results again validate that interaction with individuals with disabilities improves attitudes within the nondisabled population. It is also important to understand what type of interaction will lead to positive attitudes. It may be interaction by doing physical activity, casual interaction, or helping someone do simple day to day tasks.

Summary and Conclusions

Based on the literature reviewed, more research needs to be done in the area of physical activity mentoring programs for individuals with disabilities and how mentoring programs affect the attitudes of the nondisabled mentors toward individuals with disabilities. Physical activity is very beneficial for individuals with disabilities. Physical activity improves cardiovascular health and the development of muscle tone (Giacobbi et al., 2008). Physical activity has also been related to improving quality of life in
individuals with disabilities (Giacobbi et al.; Hicks et al., 2003). Hicks et al. found that not only did a training program for individuals with spinal cord injuries improve their muscular strength and cardiovascular health, but participants also reported less stress, pain, and depression. Quality of life for individuals with disabilities has been improved because of physical activity and can also help the individual feel more empowered about daily tasks and gain will be more independence. Hicks et al. and Giacobbi et al. also found that the social aspects of physical activity have positive impacts on individuals with disabilities. Giacobbi et al. reported that individuals were more likely to participate in sports or physical activities because a coach or friend motivated them to start or continue in the activity. This motivation for individuals with disabilities is important because they will not reap the benefits of physical activity unless they are involved on a regular basis.

Motivation to be physical active is very important for individuals with disabilities. Many individuals with disabilities feel if they don’t have someone working with them and helping them learn new skills they won’t be successful. Therefore having support from parents and staff to help them access different activities is critical. Temple and Walkely (2007) found that social supports, financial support, and motivation were the biggest factors why individuals with disabilities did not participate in physical activity. It is crucial for individuals with disabilities to have access to every support they need to be active and stay active. An important way to gain support is through a mentoring program where an individual with a disability works one on one with someone to stay active and learn new skills for future independent participation.
Studies on mentoring programs focus on what benefits the mentee/protégé receive from the program. Many studies have shown that when individuals with disabilities have a mentor during transitional times in their lives they are more successful in those transitions (Hogansen et al.; 2008; Powers et al., 1995; Veith et al., 2006). Mentoring programs have been shown to be affective when an individual is transitioning from high school to work or college, or when someone acquires spinal cord injuries, mentors are beneficial to help them transition from rehabilitation life back to their life at home (Hogansen et al.; Powers.; Veith et al..). Hogansen has shown that women with disabilities who have a mentor in high school are more likely to gain a good job and sustain that job. Although there are many studies on mentoring programs and the benefits of those programs for individuals with disabilities, many studies don’t address the effect of the program on the mentors. This is just as critical as understanding how the program impacted the mentee.

It is also important to understand what benefits the mentors gain. Mentors are also gaining valuable experience teaching an individual and learning about themselves as teachers and how they impacted the mentee/protégé. For nondisabled mentors who are mentoring an individuals with a disability it is important to investigate what impact that mentee had on the mentor. The mentor might have learned more about a certain disability and how to help the person feel more empowered so that they can become more independent. Mentors attitudes can also be affected by working with individuals with disabilities. More research should be done on the effects of mentoring programs on the mentors.
Studying attitudes toward individuals with disabilities has been a very popular area of research the past 20 years. However, there is still more to be done in the area of attitude change. Many studies discuss the attitudes towards individuals with disabilities but do not analyze what changes attitudes to be more positive. Some studies have looked at the effects of interaction with individuals with disabilities and found that more interaction led to a better attitude (Barr & Bracchitta, 2008; Stewart, 1990). Interaction with individuals with disabilities is a very important factor in changing attitudes but there is also more that is needed. Knowledge of disabilities and how that disability can affect that person is also very important (Daruwalla & Darcy, 2005). When mentors are working with individuals with disabilities it is beneficial for the mentor to understand how that disability affects their life.

The current study examined the attitudes of mentors working with individuals with disabilities during an eight week physical activity mentoring program. Mentoring programs have been proven to create positive transition from one arena of life to another. The research attempted to determine if a physical activity mentoring program could change the attitudes of college student mentors toward individuals with disabilities. Mentoring program studies have not examined the effects of the programs on the attitudes of mentors towards individuals with disabilities. Studies have shown though, that experience with individuals with disabilities can help improve attitudes to be more positive. More research needs to be done in the area of physical activity mentoring programs and how they effect the mentors attitudes towards individuals with disabilities, to see if a physical activity mentoring program is an acceptable way to change attitudes.
References


