Attitudes Toward the Physically Handicapped

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EXECUTIVE SUMMARY

With today’s scientific and medical advancements, individuals with once life-threatening physical disabilities can now function efficiently in today’s fast-paced world. Technology enables amputees to run marathons on prosthetic limbs and allows paraplegics to compete in Olympic games from their wheelchairs. Though these technologies and methods of modern medicine have been developed, it seems that attitudes and perceptions toward those with physical disabilities have not changed.

The students of Roger Williams University decided to conduct a study to gain insight into the attitudes and perceptions that people have toward people with physical disabilities. Through this study, the researchers expect to collect quantitative data which will inform us of what people’s attitudes and perceptions are, where they acquire these attitudes and perceptions, and how interaction with the physically handicapped affect these perceptions.

In the Spring of 2010, a sample of 1,914 residents of Bristol County, Rhode Island, were surveyed about their attitudes and perceptions toward the physically handicapped. Of those surveyed, 1,641 identified themselves as Caucasian, 64 identified themselves as Asian, 32 as African American, 4 as Native American, 37 as Hispanic, 47 as Portuguese, and 61 identified themselves as another unnamed ethnicity.

As hypothesized, survey data revealed that people who know someone or live with someone who has a physical handicap generally have more positive attitudes toward physically handicapped people. Those who reported having a higher education level were more informed about the realities of physical disabilities. For example, those who had at least a high school diploma knew that a physical disability is not always accompanied by a mental disability. Those without a high school diploma were unsure of this fact and reported that they felt neutral.

The implications of these findings will be used to generate Public Relations efforts to increase knowledge and awareness about physical disabilities.

INTRODUCTION

This survey was conducted through a course at Roger Williams University. The rationale and underlying principles of this study are based on the perceptions and attitudes towards the physically
handicapped and the factors that may have a part in creating those attitudes. Over 1900 surveys were conducted in the Bristol community asking for their perceptions and opinions regarding the physically handicapped. This survey attempts to provide a scientific certainty of people’s views regarding the physically disabled, how one reacts in the presence of someone with a physical handicapped condition and how the community accommodates them. The study showed a significant relationship between positive attitudes toward the physically handicapped and people who know someone with a physical handicap. There was also a significant correlation between higher levels of education and awareness and positive attitudes.

**BACKGROUND/LITERATURE REVIEW**

**INTERVIEWS**

In our preliminary research efforts, we interviewed approximately 30 people, specifically people with expertise working with or being in contact with those who are physically handicapped.

Among those interviewed included nurses, physical therapists, special education professionals, volunteers, and prosthetists. The questions we asked during the depth interviews were:

1.) *Can you describe your experience working with/dealing with people who are physically handicapped?*
2.) *In general, what are attitudes and behaviors you’ve observed from other people towards people who are physically handicapped?*
3.) *How do you feel about working with/dealing with people who are physically handicapped?*
4.) *Can you think of any ways to improve attitudes towards people with physical disabilities?*
5.) *Is there anything additional you might want to add based on your experience about attitudes towards those who are physically handicapped?*

The responses we received during the interviews were very informative, and helped us gain a better understanding of terminology and ideology surrounding those with physically handicaps.

Jessie Swetcky, an employee of Alexandra Manor nursing home in Bloomfield, CT, has extensive experience working with patients in wheelchairs. Because the majority of the residents at Alexandra Manor are senior citizens, there is a large population of those who need wheelchairs to be mobile. Jessie noticed that the majority of wheelchair-bound individuals have accepted the fact that they can no
longer walk, and are content with their situation. Those who have not accepted this reality are the ones who often feel sorry for themselves. “The best way to make them feel better”, says Jessie, “is to smile and help them in any way possible”. Jessie believes that the majority of negative attitudes toward those with physical disabilities come from fear and ignorance. We believe that in our study we will find a correlation between those who are uneducated about those with physical disabilities and those who feel uncomfortable toward those with disabilities.

Callie Walter, a fourth year nursing student, and an employee at a physical rehabilitation center, has had upwards of three years working with patients with spinal cord injuries, specifically paraplegic and quadriplegic patients. The number one problem for patients that Callie has experienced is their family members’ attitudes toward the individual with the disability. After a patient has had a tragic accident, the families usually view he/she as a weak individual, and don’t allow the patient to regain their independence. “All [patients] want more than anything is to be independent again,” says Callie. “But when family members insist on doing everything for them, they are unable to regain their independence.” Callie believes that the most important thing when coming into contact with people with physical disabilities is to remember that they can do everything that everyone else can do; they just do things differently.

Sabrina Taft, a graduate student of Physical Therapy, interns at the pediatric outpatient clinic. At the clinic, Sabrina works with children with a variety of physical disabilities. Sabrina has noticed that most people avoid children with physical disabilities, without getting to know the child with the disability; this makes her very sad. Sabrina’s favorite part about working with children with disabilities is seeing the children accomplish things that they or others never thought they would be able to accomplish because of their disability. Sabrina believes that for people to become more accepting of people with physical disabilities, there needs to be more education and awareness spread about physical disabilities. We agree, and we believe that through our survey results, we will find that people believe there is a need for more education about physical disabilities.

Colleen Huysman has worked as a cabin leader at Easter Seals Camp Hemlocks in Hebron, Connecticut for two years. The camp hosts a group of campers each week with a different disability; for example, multiple sclerosis. Colleen has been trained to work with people with physical disabilities, and finds the experience extremely rewarding. She remembers how happy campers are when they accomplish physical tasks that they never thought possible. Their determination is an inspiration, and they truly can do anything they set their mind to. Colleen finds that in today’s society, most people
understand that it is wrong to poke fun or laugh at physical disabilities, but that people do it anyway. She thinks that to overcome this problem, people need to see what it is like to live with a physical disability, and once they understand, then they will respect those people. Colleen says that “people with disabilities are people first, and often their humanity is overshadowed by their disability.”

Lauren Vielette is a 4-year volunteer with the Best Buddies program, which pairs children with disabilities-both mental and physical-with volunteers. This program is used to formulate friendships and increase education for both individuals. Lauren noticed through the program, that although there were the occasional “jerks” who make fun of those with disabilities, people usually go out of their way to help. Lauren also noticed that the children with disabilities who were enrolled in the program were grateful to be acknowledged, because many people ignore them in social situations. Lauren believes that through more programs similar to Best Buddies, attitudes toward the physically handicapped will improve.

Linda Adamczyk (of Buffalo, NY) is a special education teacher in the state of New York. In addition, for five years Linda has worked closely with a woman who has multiple sclerosis. She believes that exposure is the key to overcoming stereotypes about people with disabilities. Through exposure, people will be more educated, and will not argue to put those with disabilities in separate school systems, which is an atrocity that Linda has witnessed firsthand. Linda believes that by exposing children at a young age to people with physical disabilities, it will show the children how lucky they are, and at the same time will teach acceptance and understanding.

Kathy MacDonald is a Special Education teacher in Old Saybrook, Connecticut, who also works at a camp for physically disabled adults. She has noticed that many people believe that because a person has a physical disability, that they have a mental disability as well; but this is not always the case. People with physical disabilities have the same learning capacity and any other individual, and need to be treated accordingly. Kathy believes that it is important to realize that people with physical disabilities are equal to us, and not inferior like some may believe.

Linda Adamczyk (of Simsbury, CT) is a Library Media Specialist in the Glastonbury School System, who has a lot of experience dealing with students who have physical disabilities. In the school system where Linda works, all physically handicapped children are mainstreamed, which means that they attend the same classes as the other students in the school. Many of the activities that the students engage in are easily assimilated to fit the needs of the children with physical disabilities. For example, children with hearing loss have hearing devices which accompanies them to all their classes. Like Kathy
MacDonald, Linda believes that it is important to understand that children with physical disabilities have the same learning capabilities as those without physical disabilities. Linda also strongly believes that people need to be seen as individuals, and not judged because of their disability.

Sally and Dennis Huysman have each been working closely with physically disabled individuals for over thirty years. Sally is a physical therapist and hosts the “Ability Awareness” program. The program, designed to educate people about those with physical disabilities, is presented to children at elementary and middle schools throughout the country. Sally notices that some people are uncomfortable around those with physical disabilities. In our research, we plan to survey our sample to see what percentage of people feel uncomfortable around those with physical disabilities, and see if there are any demographic or psychographic correlations with that discomfort. Sally also states that the most important thing about working with individuals who have physical disabilities is to realize that they are “a PERSON with a physical disability, not a physically disabled person,” and that individuals should not be defined by their disability.

Dennis Huysman, an employee of Hanger Prosthetics, comes into contact with physically disabled individuals on a daily basis while fitting them for their prosthetic limbs. One thing that Dennis has learned through his career, and through working at an Easter Seals camp for the physically disabled while he was younger, is that people with physical disabilities can do anything they set their mind to. While working at the camp, Dennis was shocked when he arrived at the camp; none of the children at the camp seemed disabled. They could do everything that other children could do; they just did things differently.

Through our interviews, we gained insight into what it is like to be in contact with individuals with physical disabilities. We were educated about how they are treated, and possible problems, or conflicts those with physical disabilities encounter. Professionals who work with the physically disabled all stress the importance of education and raising awareness about physical disabilities so that people do not feel uncomfortable or fearful around those with physical handicaps. Many of our interviewees mentioned how inspiring the people they work with are, and how they are able to do almost all of the things that everyone else can do, just in a different way. Another common perception that our interviewees noticed was that many people assume that people with physical disabilities also have mental disabilities, which is not the case. Because of this misconception, we will ask our subjects in our survey if they agree with this assumption.
LITERATURE REVIEW

Definitions of Disability

There are varying opinions on the true definitions of disability, and the ongoing discussion has continued for years.

In 1862, the United States Military defined disability as: “under size, over age, moral disability, appearance of intemperance, mal-formation, unsound constitution, mental disability, impaired vision, deafness, rupture, varicose veins, brand of letter D [for ‘deserter’], extreme ignorance, married (Serlin 149).” For many years, homosexuality was considered a “disabling condition.” This is no longer the popular belief held today.

Varying opinions and attitudes not only surround the definition of disability. These varying attitudes surround disabled people as well, and these changing attitudes have been present forever. Attitudes toward those who become amputees in a war setting are more favorable than other disabled individuals. Those who became amputees while serving in the war were considered “patriotic” and the artificial limb served as a reminder of the sacrifice they made for their country. In the 1940s, the media went so far as to flood news reports, feature films, radio broadcasts, and newspapers with footage of veteran amputees (Serlin 150).

Though the definition is constantly evolving and changing, the current definition of “disability” by the World Health Organization is:

- an umbrella term, covering impairments, activity limitations, and participation restrictions. ‘Impairment’ is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person’s body and features of the society in which he or she lives (Homepage 1).
Research on Attitudes Towards People with Disabilities

Extensive research has been done on attitudes towards people with disabilities. In one study, a pilot program for educating art education students evaluated the student teacher’s attitudes towards people with disabilities both before and after completing an internship (Carrigan 16). In the program, they worked with disabled people daily. The study showed 15 of 19 people who had worked with handicapped people in the past felt anxious, apprehensive, or unsure what to expect. The 4 without previous experience said they were ‘curious, excited, and looking forward to it’ (Carrigan 17). This reinforces attitudes from a study by Gottlieb & Corman, 1975, that previous contact with people with disabilities does not alleviate ambivalence or negative feelings (Carrigan 17). We could also test this idea if we design our survey accordingly. When asked what they thought was most valuable about the program, 8 stated that the relationship formed with the student was most valuable. Of those 8, 7 said it allowed them to see life from a different perspective. The remaining 11 stated that learning how to work with someone with disabilities was most valuable. The students were then asked if they would feel comfortable having a person with disabilities in their class. 11 said it would not be a problem, 6 were still uncomfortable, and 2 thought it was an extremely good idea. 7 students said their comfort level went up after the internship (Carrigan 20). The interns said their attitudes changed the most because of relationships formed with their students (Carrigan 21).

Another study was performed to see how mainstreaming affects children’s perceptions on handicapped children. In the experiment, a story about a handicapped boy was read to a class of mainstreamed children, then to a class of non-mainstreamed children. Later, the children were given a ‘memory recognition task’ to see how well they recalled characteristics about the handicapped child in the story (Lehrer 99). The mainstreamed children made significantly fewer errors than non-mainstreamed, “confirming the prediction that mainstreaming will result in a less stereotypic handicap schema with non-handicapped students” (Lehrer 94).

Another study was administered to ten and eleven year old children of varying gender, ethnicities, background and religions. Both non-handicapped and handicapped children were included in the study (Altman 324). The children were asked to rank six pictures of children in the order they liked best. The results were consistent, ranking #1 as a child with no physical handicap, #2 as a child with crutches and a brace on the left leg, #3 as a child sitting in a wheelchair with a blanket covering their legs, #4 as a child with the left hand missing, #5 as a child with a facial disfigurement on the left side of their mouth, and
Another study employed sociometric methods where people’s reactions towards handicapped people were observed and recorded. The results showed children in grade school had more rejecting attitudes towards amputees than non-amputees (Altman 325). In general, people interacting with the physically handicapped terminated the interaction sooner, showed less variability in their verbal behavior, and distorted opinions to make them more consistent to what they believed the disabled person thought (Altman 325). People also tended to inhibit their motor movements while talking to a physically handicapped person. In general, the study found that the higher the physical appearance and academic competence of the handicapped person correlated with higher levels of acceptance (Altman 325).

Surveys were also analyzed in order to gain a better understanding of attitudes towards the physically handicapped. The four aspects focused on included favorability of responses, conceptions of the disabled, social distance responses, and simple rankings of types of handicapped conditions (Altman 326). Women tended to express more favorable attitudes than men. Younger subjects expressed more positive attitudes than older subjects. However, results from surveys were extremely varied, making it difficult to arrive at conclusions (Altman 326).

Another study was performed to evaluate the attitudes of health professional students towards people with disabilities. A cross-sectional survey was administered to 348 students (Tervo 908). Results showed differences among student groups on the attitude scales and factor scores. All students’ attitudes were less than positive, with nursing students holding the least positive opinions (Tervo 908). Those with a background in disability had more positive attitudes. Work experience was found to be an important factor for the level of students’ comfort (Tervo 908).

Another study found that contact with a disabled person causes that person to have more positive feelings towards the disabled. This study was administered to thirty students with varying background experience with disabled people (Shannon 11).

Another study was given to 218 undergraduate students to evaluate their attitude towards people with disabilities. They completed the Attitudes Towards Disabled Persons Scale, a direct measure of attitudes towards people with disabilities (Meyer). It was found that students enrolled in occupational degree programs have more favorable attitudes towards people with disabilities than students in medical technology programs (Meyer).
Problems With Existing Research on Attitudes Towards People with Disabilities

This section will discuss problems with existing research on attitudes towards people with disabilities and what these findings reveal.

In an evaluation of the research done on attitudes towards people with disabilities, a few consistent problems emerged. Firstly, a problem exists in determining if the results showed attitudes towards a person with a disability or to the disability itself. For example, an experiment in ‘Picture Ranking’ was performed on both handicapped and non-handicapped children of various backgrounds, genders and religions aged 10-11. Children were asked to rank pictures of children with varying disabilities in the order they liked best (Altman 324). While the results were fairly consistent, researchers wondered if the children were reacting negatively to the individual in the picture or the disability the individual had (Altman 324). Also, in a survey, the term ‘attitude’ was used ambiguously. They saw improved results with changing the wording in the survey. For example, they got more favorable results to ‘a person who is blind’ than ‘blindness’. Another problem found in research is the vague definition of the word ‘contact’ (Altman 326). This tells us when developing our research to pay careful attention to the language we use. Many studies have tried to evaluate whether having preexisting contact with a person with disabilities would change a person’s attitude. However, how much contact or what defines contact is never clearly stated (Altman 326). Unsurprisingly, this resulted in inconsistent results. Another problem with existing research is the population most frequently studied. Most of the research has been performed on students. However, research would benefit from extensive research done on all types of people, from professionals to the general public (Altman 327). In addition, there are a lot of different age groups who wear prosthetic limbs. When studies are performed, age groups are lumped together. This translates to inaccurate results. Also, the design in a study conducted by Michigan State University failed to address the changes in attitudes over time based on different levels of contact and context (Shannon 11). This tells us we need to carefully define contact or experience in our study. Also, people who are being surveyed might change their responses for concern of how they are perceived by others (Shannon 11).

Amputees’ Attitudes and the Attitudes of Their Caregivers

For several years now, doctors have had the ability to fit prosthetic limbs to amputees, which gives them the ability to function as normal before their amputation. What is not clear; however, are the patients’ attitudes toward their care.
Studies have shown that there is a huge difference between how amputee patients expect to be treated, and how they are actually treated (Van der Linde 1049). The Department of Veterans Affairs was curious not only about how the amputees felt, but also about the way people surrounding the veterans felt. To give them better insight into the situation surrounding healthcare of amputees, they held a workshop and invited veteran amputees, clinicians, researchers, and prosthetic device manufacturers. Within each focus group, the attendees discussed the issues that they face and possible solutions to these issues (Klute 293).

The principle need that the focus groups yielded was the need for “a comprehensive understanding of the recovery path following amputation that could be addressed through enhanced education and communication” (Klute 294). The amputee group’s initial concerns were that in the rehabilitation process, they were not treated as individuals. Clinicians stated their disappointment in the lack of attention paid toward the patients’ social and psychological well-being pre-amputation. Researchers found there was a lack of research into economic factors, as well as lack of attention paid to the technological specifications needed for each individual patient. The manufacturers found it very difficult to meet the needs of the amputees when there is little to no opportunity to communicate with them. Overall, all groups expressed a need for a more comprehensive understanding and clearer guidelines for amputee patient care (Klute 293).

**Psychosocial and Psychological Perspectives**

Amputees are in a unique situation. Their psychological and social well-being can be compromised if not paid attention to. Diminishing levels on confidence can negatively affect the patient’s outlook on the recovery process. When a patient’s balance confidence is compromised, it affects the way the patient feels about his/her capabilities, as well as he/she will function in society (Miller 876). With proper intervention by clinicians, patients can restore their balance confidence, as well as their overall confidence levels.

Amputation and the fitting for prosthetic limbs shortly after have immense psychological effects on the individual. For some amputees, the prosthetic limb offers hope for a return to normalcy, independence, and improved quality of life. For others, the prosthesis serves as a reminder of their injury and a symbol of their disability and separation from normalcy. It is important to address the
effect that the amputation has on depression, life satisfaction, pain interference, occupational functioning, mobility within the individual patient (Gallagher Intro 828).

When a patient loses a limb, they face a physical recovery, as well as an emotional and psychological recovery which involves accepting the fact that their limb is no longer a part of them. Amputees can respond to their condition in a number of ways, and each individual is different in their coping strategies. Dr. Pamela Gallagher and Dr. Malcolm MacLachlan, found through their research that amputees frequently experience a series of emotional reactions including shock, denial, grief, anxiety, depression, and, eventually, adjustment (Gallagher). They also found that patients with fewer physical problems accompanying their amputation had fewer emotional problems during recovery. Those with amputations resulting from traumatic events have a harder time coping with their amputation than those who lost their limbs due to an illness or disease. When an individual experiences a traumatic event, they are given little to no time to think about the possible options or outcomes; when one has an illness, they are typically given more time to decide and plan their treatment, which makes the change slightly easier (Gallagher).

Because of the emotional strain that amputation has on individuals, healthcare professionals must be tolerant and caring. Prosthetic orthotics (P&O), who design “artificial limbs or other devices, such as braces or splints, to support body parts, and improve mobility,” need to be especially considerate because of their constant interaction with amputee patients who may suffer from emotional problems (Wong). This information is important for our study because it is important for us to understand the psychological factors that could be at play when conducting our own study.

**Global Background on Prosthetics**

A new trend in Japan shows more amputees showing off their prosthetic limb, instead of hiding the prosthetic or wearing prosthetics resembling real appendages (Otani). Professional designers are actually designing new prosthetic limbs for amputees. A prosthetic leg was on display at the "bones" exhibition, which was held from May 29 to Aug. 30 at the 21_21 Design Sight in Tokyo's Roppongi district (Otani). The limb was designed by Shunji Yamanaka, a product designer known for his designs of cars and robots (Otani). Yamanaka was inspired by Oscar Pistorius, a South African double-amputee Paralympic sprinter known as the Blade Runner (Otani). Recently, a prosthetic professional in Tokyo has seen an shift in more amputees showing their artificial limbs. He believes it is because of the increasing number of physically challenged athletes participating in the Paralympic Games. A problem in stylish
prosthetics is that durable prosthetic limbs tend to have a chunky, mechanical structure, while aesthetically-pleasing ones look better but lack functionality. An ideal would be to merge functionality and aesthetics (Otani).

In Haiti, there has been an increasing number of amputees in need of prosthetics as a result of the recent earthquake. According to Handicap International, between 2,000 and 3,000 people have had crushed limbs amputated since January 12th (Dilanian and Bello 6A). Many are hoping the sheer numbers will change the current negative attitudes Haitians have towards amputees. In general, disabilities are ridiculed and thought of as a curse. Finding work is extremely difficult for a disabled person in Haiti. Aid groups and medical professionals are hoping that the sheer magnitude of the number of people with disabilities in Haiti now will change these poor attitudes (Dilanian and Bello 6A). It is unknown if this will change people’s attitudes worldwide.

In Sweden, a rehabilitation program called OPRA (Osseointegrated Protheses for the Rehabilitation of Amputees) was evaluated to see if it was successful in improving the quality of life in amputees (Hagberg and Branemark 331). The treatment has been performed in Sweden since 1990 and consists of two surgical procedures followed by rehabilitation. Between May 1990 and June 2008, 100 patients who went through the program were evaluated (Hagberg and Branemark 331). The study concluded that the OPRA rehabilitation program is hugely successful in improving quality of life for those using prostheses (Hagberg and Branemark 331).

In Wales, a Cardiff University firm is aiming to create a brain implant which would allow amputees to channel brainwaves to prosthetics. The implants are the size of a match head which carry 100 sensors made of tungsten carbide (an extremely hard compound which conducts electricity) (Stone 3). They are slightly thicker than a human hair and sit on the brain picking up nerve impulses to relay to prosthetic limbs (Stone 3). A patient fitted with this implant would have to learn how to do the correct mental activity to get the desired response. For the future, the hope is that this chip could help patients paralyzed due to spine injuries (Stone 3). The firm is currently helping a U.S. company to produce the brain chips.

**Technological Advancements in the World of Prosthetics**

In today’s technological age, there have been many recent developments in the field of medicine, specifically in the field of prosthetics. This could affect attitudes, opinions and feelings towards individuals with physical handicaps.
One of the most exciting and astounding innovations in prosthetic technology is transplantation of the hand. The first attempt at a hand transplant in 1964 yielded much controversy and skepticism from the medical community. As of 2009, however, there had been 44 successful hand transplant surgeries. These surgeries allow the individuals with the hand transplant to return to their normal daily activities, such as opening regular door knobs, carrying a gallon of milk, eating with a fork and a knife, and tying shoelaces. With this new procedure, disabled individuals are being given the ability to return to their quality of life pre-amputation (Kaufman 395).

Where a hand transplant is not available, or is seen as a health risk, a patient now has a new option to consider: a rubber hand. In the past, prosthetic hands have served as helpful tools, but have not completely been able to fully replace the presence of a fully functioning hand. The Department of Neuroscience and the Departments of Hand Surgery at Malmo Hospital and the Department of Hand Prosthesis at Red Cross Hospital in Stockholm, Sweden, have proven that it is possible for an amputee to experience a rubber hand as if it were their own (Ehrsson 3443).

Using synchronous touches on both the stump and the index finger of the rubber hand, an illusion of sensing touch on the artificial hand occurs. This so-called “tricking of the brain” is a medical phenomenon which allows amputees to have sensation in a prosthetic hand, which is something that has never been done before (Ehrsson 3443).

Another new development in technological hand prostheses includes Scott Firm’s bionic hand. The i-LIMB, now the world’s most advanced artificial prosthetic, won top prize in 2008 claiming the MacRobot award. With five individually powered digits, a flexible wrist and rotating thumbs the i-LIMB is a technological breakthrough; “While traditional prostheses have only one motor, allowing limited movement, the new hand has five, with one concealed between the base and knuckle of each finger.” This one-size-fits all devise which is covered in artificial skin is helping handicapped patients around the world, including U.S soldiers in Iraq, 200 of which have already been fit for (Simpson).

Another technological advancement that scientists have developed are artificial nerves that could one day allow amputees to experience heat, cold and touch with their prosthetic limbs. A new material called Pedot is used for thin plastic filaments that conduct electrical signals, which is then connected to the patient’s nerves and to the new limb. Paul Cederna, professor of plastic surgery at the University of Michigan, said: "Someone who has lost both their hands would be able to hold their child’s
hand again and feel the warmth.” Those responsible for this invention believe that not only will they be able to perform tasks like chores or playing the piano but more importantly they will be able to feel the warm touch of someone holding their hand again (Dowling).

Many new prosthetic limbs have electrical components. Some are custom-fit to a patient’s stump using computers. Certain prosthetics can automatically adjust to different uses, such as gripping or walking (Grice 27).

HDT Engineering Technologies recently developed new prosthetic limb technology that will give patients improved control of the prosthetic as well as a sense of touch (HDT 921). They will provide patients with increased dexterity, allowing the fingers and thumb to conform to irregular shaped objects. In addition, fingertip censors allow a patient to sense temperature, textures, pressure, and friction. The new technology can use up to twenty motorized joints, more accurately mimicking a real human arm’s actual movement (HDT 921).

Targeted reinnervation is a new technology being developed to help improve the function of prosthetics (Marasco, Schultz and Kuiken 1441). It is a surgical procedure that redirects nerves once were used for a severed limb to the patient’s chest. This gives the patient the feeling of the missing limb in the patient’s skin. This process could be used to give patients sensory feeling in their prosthetic limb as well as psychologically helping the patient to identify with the prosthetic (Marasco, Schultz and Kuiken 1441).

A study was conducted involving skin and bone integrated pylon (SBIP) which is intended for direct skeletal attachment for prosthetic limbs. In previous studies inflammation was not a concern but the strength of the bond between bone and artificial limb was a concern. “To find a reasonable balance between the biological conductivity and the strength of the porous pylon, we developed a mathematical model of the composite permeable structure.” A new prototype was tested mechanically and the strength requirements were exceeded to say the least. “The first histopathological analysis of skin, bone, and the implanted pylons was conducted on two rats and one cat.” The analysis provided evidence of inflammation-free, deep ingrowth of skin and bone cells throughout the bone and artificial structure (Pitkin).
Proposed Research Questions

After evaluating our literature review, we have come up with a few proposed research questions. They are as follows:

- What are the attitudes held by professionals towards individuals with prosthetic limbs?
- What is the general public’s attitude towards those with prosthetic limbs?
- What are the attitudes held by peers of individuals with prosthetic limbs?

In conclusion, our literature review provided new insight into attitudes towards people who are physically handicapped. We discovered what research already exists and where research is lacking on the subject. It is important to know that very little research exists on attitudes held by professionals and the general public towards individuals with physical handicaps. It was interesting to find how attitudes held by students have been researched extensively. This tells us we should focus our research on professionals and the general public. Also, our research on technological advancements and world issues related to prosthetic limbs gave us a good background on issues facing handicapped individuals today. This information is important to know because it can potentially influence people’s attitudes and opinions towards handicapped individuals. Also, the study detailing how word choice influences attitudes towards the physically handicapped is important. This tells us we should be very careful phrasing ideas when conducting our research. Our literature review was very helpful and provided us with insight we did not previously have.

Description of Method

For our research project, we will be examining the attitudes held by the general public towards those with physical disabilities. We are interested in how the public perceives those with physical handicaps and why they hold those beliefs. We have already conducted preliminary research on the topic to gain a better sense of the situation. So far, we have conducted a literature review on relevant sources discussing attitudes towards those who are physically handicapped. This helped us gain a sense of what information already exists on the topic as well as what information is lacking. In addition, we have conducted approximately thirty interviews on people with experience dealing with or working with physically handicapped individuals. Interviewees ranged from physical therapists to individuals who are close friends with a person with a physical disability. The people we interviewed all could speak with
more authority than the average person about attitudes towards individuals with physical handicaps. Based on our findings, we discovered certain areas on the topic which we wish to research further.

The main questions we seek to answer with our research are as follows: What are the attitudes held by the general public towards individuals who are physically handicapped? What causes these attitudes? What can be done to improve attitudes towards physically handicapped individuals held by the general public?

We attempted to find the answer to these questions by administering a survey to the general public. Our literature review showed that a lot of research on attitudes towards individuals with physical handicaps has been performed on students, but not a lot of research exists on attitudes held by the general public. Also, our interviews informed us most people who hold negative attitudes are those who have not been in continuous contact with people with physical disabilities. Based on this, we administered our surveys to the general public of Rhode Island who have not had a lot of experience with individuals with physical handicaps. A copy of the survey used for our research can be found in the appendices.

To administer our survey, we went into Bristol, Rhode Island and neighboring towns to conduct the surveys at local businesses. This gave us a great selection of the population and helped answer our research questions as they relate to the general public. Since students have already been researched thoroughly in the past, we limited the amount of students to a very small percentage of the surveyed population. We also screened survey participants by asking them if they have had constant contact with individuals with physical handicaps. If they answer yes, we did not ask them to fill out a survey. We were particularly looking for survey participants who do not interact with individuals with physical handicaps on a regular basis. As a group, we surveyed roughly 250 participants in total. As a class, we surveyed 1,904 people. This produced a sample representative of the general population within plus or minus 2.2 percentage points. We encouraged individuals to take our survey by informing them it is for a school project, is not time consuming, and is completely anonymous. We administered these surveys during the weekdays and weekends during the daytime.

We analyzed our data using SPSS. We coded our survey answers, which can be found in our codebook. We then imputed our data into SPSS. We ran a variety of tests to find significant results including T-tests, F-tests, Chi squared tests and correlations.
RESULTS

T-Tests

We ran a T-Test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement with the statement, “I believe someone who has a physical handicap also has a mental handicap”. Those who said they do know someone who has a physical handicap disagreed. Those who did not know someone who is physically handicapped were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement with the statement “I feel uncomfortable around physically handicapped people”. People who know someone who is physically handicapped disagreed; those who didn’t know someone were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement of the statement “I am knowledgeable about the physically handicapped”. Those who knew someone were neutral; those who didn’t know someone disagreed.

We ran another T-test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement with the statement “we should increase public awareness about the physically handicapped”. Those who said yes were neutral; those who said no agreed.

We ran another T-test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement with the statement “the accommodations for the physically handicapped in our community are good”. Those who said yes disagreed; those who said no were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement with the statement “the physically handicapped cannot function effectively in most work environments”. Those who said yes disagreed; those who said no were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement with the statement “most work environments in our community accommodate the physically handicapped”. Those who said yes disagreed; those who said no were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to knowing someone who is physically handicapped and their level of agreement with the
statement “most public places in our community accommodate the physically handicapped”. Those who said yes disagreed; those who said no were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to coming into contact with a physically handicapped individual at work and their level of agreement with the statement “we should increase public awareness of the physically handicapped”. Those who said yes agreed; those who said no were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to feeling confident communicating with a physically handicapped colleague at work and their level of agreement with the statement “I feel uncomfortable around physically handicapped people”. Those who said yes disagreed; those who said no were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to feeling confident about communicating with a handicapped child and their level of agreement with the following statement “I believe that someone who has a physical disability also has a mental disability”. Those who said yes disagreed; those who said no were neutral.

We ran another T-test. We found a statistically significant difference between those who said yes or no to feeling confident about communicating with a handicapped child and their level of agreement with the following statement “I feel uncomfortable around physically handicapped people”. Those who said yes were neutral; those who said no disagreed.

We ran another T-test. We found a statistically significant difference between those who said yes or no to feeling more compassionate towards a physically handicapped veteran and their level of agreement with the statement “I feel uncomfortable around physically handicapped people”. Those who said yes disagreed; those who said no were neutral.

**F-Tests**

After running an F-Test to determine if there were differences between those with varying education levels and those who believe that a person with a physical disability also has a mental disability, we found a statistically significant difference. Those who have some high school/no diploma felt neutral when asked whether or not they thought that people with physical disabilities also had mental disabilities. Those with a high school diploma, an associates’ degree, a bachelors’ degree, a masters’ degree, and a doctoral degree, disagreed when asked if they believe that those with physical disabilities also have mental disabilities. Those with a post-doctoral degree strongly disagreed that those with physical disabilities also have mental disabilities.
We ran an F-Test to determine if there were differences between those with varying education levels and those who believe that men and women have different attitudes toward the physically disabled, and we found a statistically significant difference. Those who had less than a bachelors’ degree felt neutral about men and women having different attitudes toward the physically handicapped, but those with a Doctoral Degree disagreed that men and women have differing attitudes.

After running an F-Test to determine if there were differences between different ethnicities and whether or not they believe that men and women have different attitudes toward those with physical disabilities, we found a statistically significant difference. Those who identified themselves as Caucasian or as Asian had an average response saying that they feel neutral about men and women having different attitudes; whereas those who identified themselves as "Other" disagreed with the notion that men and women have different attitudes toward the physically disabled.

We ran an F-Test to see if there were differences between varying levels of education and the need for increased awareness about physical disabilities and found a statistically significant difference. Those with some high school/no diploma indicated that they were neutral about whether or not there is a need for increased awareness about physical disabilities. Those with a high school diploma or GED, those with a bachelors’ degree, those with a Masters’ Degree, and those with a Doctoral degree had an average response that they agreed that awareness needs to be increased about physical disabilities. Those who indicated that they did not know what their highest level of education was answered that they disagreed with the notion of increasing awareness about physical disabilities.

After running an F-Test to determine if there were differences between different ethnicities and whether they believe awareness needs to be increased regarding physical disabilities, we found a statistically significant difference. Those who identified themselves as Caucasian and those who identified themselves as Portuguese had an average indication that they felt neutral about the need to increase awareness about physical disabilities. Those who identified themselves as Asian agreed that awareness about physical disabilities needs to be increased.

After running an F-Test to determine if there were differences between ethnicities and their satisfaction level regarding accommodations for the physically disabled, we found a statistically significant difference. Those identifying themselves as Caucasian, African American, Hispanic and “Other” had an average response that they were neutral; whereas those identifying themselves as Asian disagreed with the idea that the accommodations for the physically handicapped are good.

After running an F-Test to determine if there were differences between socio-economic status and attitudes about how people feel the physically disabled function in most work environments, we found a statistically significant difference. Those who reported making between $10,000 and $99,000 per year felt neutral about how well the physically disabled can function in most work environments. Those who make $100,000 or more per year disagreed with the fact that physically handicapped people cannot function efficiently in most work environments.
We ran an F-Test to determine if there were differences between ethnicity and if people believe the physically disabled can function efficiently in most work environments. Those identifying themselves as Caucasian, Asian, Hispanic, and Portuguese were neutral when considering how efficient the physically handicapped can function in most work environments. Those identifying their ethnicity as “Other” said that they agreed with the notion that the physically handicapped cannot function efficiently in most work environments, whereas African Americans disagreed with this statement.

After running an F-Test to determine if there were differences between levels of education and whether or not they believe that most work environments in the community accommodate the physically handicapped. Those with an associates’ degree indicated that they felt neutral about work environments being accommodating to the physically disabled, whereas those with a doctoral degree indicated that they disagreed; they felt that the work environments in the community did not accommodate the physically handicapped.

After running an F-Test to determine if there were differences between levels of education and agreeing with the fact that public places accommodate the physically disabled, we found a statistically significant difference. Those with education less than a Masters’ Degree said that they are neutral about how well public places accommodate the physically disabled. Those who have a Doctoral Degree disagreed that public places accommodate the physically disabled, and those with a Post-Doctoral degree agreed that public places accommodate the physically disabled.

We ran an F-Test to determine if there were differences between ethnicity and how accommodating the physically handicapped public places seem to be, we found a statistically significant difference. The only ethnicity who was not neutral about the accommodations was the Native Americans surveyed. The average response from Native American subjects was that they agree that public places are accommodating of the physically handicapped.

After running an F-Test to determine if there were differences between socio-economic status and if people feel uncomfortable around those with physical disabilities, we found a statistically significant difference. Those who make less than $10,000 per year and those who make $75,000-$99,000 per year are neutral about being uncomfortable around people with physical disabilities. Those who make between $30,000 and $74,000 did not feel uncomfortable around those with physical handicaps; those who make $100,000 or more per year also did not feel uncomfortable around those with physical disabilities.

After running an F-Test to determine if there were differences between political affiliation and whether or not people feel uncomfortable around people with physical disabilities, we found a statistically significant difference. Those who consider their political views to be very conservative and conservative were neutral when asked if they feel uncomfortable around those with physical handicaps. Those who consider their political views to be moderate, liberal, and those who are unsure about their political affiliation disagree and feel that they are not uncomfortable when they are around physically disabled people.
Correlations

There was a medium negative correlation between believing someone who has a physical disability also has a mental disability and the belief that more awareness for the handicapped should be raised. People who believe that someone who has a physical disability also has a mental disability tend to believe more awareness for the handicapped should not be raised.

There was a small positive correlation between believing physically handicapped individuals cannot function as well in most work environments and believing someone with a physical handicap also has a mental disability.

There was a very small negative correlation between believing most work environments in our community accommodate the physically handicapped and believing someone with a physical handicap also has a mental handicap.

There was a large positive correlation between feeling uncomfortable around physically handicapped people and believing people with a physical handicap also have a mental handicap.

There was a small negative correlation between feeling knowledgeable about the physically handicapped and believing people with a physical handicap also have a mental handicap.

There was a small negative correlation between believing there are negative attitudes towards the physically handicapped and believing people with a physical handicap also have a mental handicap.

There was a small positive correlation between believing the media portrays the physically handicapped in a positive way and believing people with a physical handicap also have a mental handicap.

There was a small positive correlation between believing we should increase public awareness about the physically handicapped and believing men and women have different attitudes towards the physically handicapped.

There was a small negative correlation between believing physically handicapped people cannot function as well in the workplace and believing men and women have different attitudes towards the physically handicapped.

There was a small positive correlation between believing most work environments accommodate the physically handicapped and believing men and women have different attitudes towards the physically handicapped.

There was a small positive correlation between believing our community accommodates the physically handicapped and believing men and women have different attitudes towards the physically handicapped.
There was a small positive correlation between believing there are negative attitudes towards the physically handicapped and believing men and women have different attitudes towards the physically handicapped.

There was a small positive correlation between believing the media portrays the physically handicapped in a negative way and believing men and women have different attitudes towards the physically handicapped.

There was a small negative correlation in believing accommodations for the physically handicapped in our community are good and we should increase public awareness for the physically handicapped.

There was a large negative correlation between believing physically handicapped people cannot function as effectively in the workplace and believing we should increase public awareness for the physically handicapped.

There was a small negative correlation between most public places in our community accommodate the physically handicapped and believing we should increase public awareness for the physically handicapped.

There was a medium negative correlation between feeling comfortable around physically handicapped people and believing we should increase public awareness for the physically handicapped.

There was a small positive correlation between feeling knowledgeable about the physically handicapped and believing we should increase public awareness for the physically handicapped.

There was a medium positive correlation between believing there are negative attitudes towards the physically handicapped and believing we should increase public awareness for the physically handicapped.

There was a small negative correlation between believing the media portrays the physically handicapped in a positive way and believing we should increase public awareness for the physically handicapped.

There was a medium positive correlation between believing most work environments in our area accommodate the physically handicapped and believing the accommodations for the physically handicapped in our area are good.

There was a large positive correlation between believing most public places in our community accommodate the physically handicapped and believing the accommodations for the physically handicapped in our area are good.

There was a small positive correlation between feeling uncomfortable around physically handicapped people and believing the accommodations for the physically handicapped in our area are good.
There was a small positive correlation between believing the media portrays physically handicapped people in a positive way and believing the accommodations for the physically handicapped in our area are good.

There is a small negative correlation between believing most work environments in our community accommodate the physically handicapped and believing physically handicapped people cannot function effectively in most work environments.

There was a small positive correlation between feeling uncomfortable around physically handicapped people and believing physically handicapped people cannot function effectively in most work environments.

There was a small negative correlation between feeling knowledgeable about physically handicapped people and believing physically handicapped people cannot function effectively in most work environments.

There was a small negative correlation between believing there are negative attitudes towards the physically handicapped and believing physically handicapped people cannot function effectively in most work environments.

There was a small negative correlation between believing the media portrays the physically handicapped in a positive way and believing physically handicapped people cannot function effectively in most work environments.

There was a small positive correlation between believing there are negative attitudes towards the physically handicapped and believing most public places in the community accommodate the physically handicapped.

There was a small positive correlation between believing the media portray the physically handicapped in a positive way and believing most public places in our community accommodate the physically handicapped.

There was a small negative correlation between feeling knowledgeable about the physically handicapped and feeling uncomfortable around the physically handicapped.

There was a small negative correlation between believing there are negative attitudes towards the physically handicapped and feeling uncomfortable around the physically handicapped.

There was a small positive relationship between believing the media portrays the physically handicapped in a positive way and feeling uncomfortable around the physically handicapped.

There was a small positive correlation between believing there are negative attitudes towards the physically handicapped and feeling knowledgeable about the physically handicapped.
There was a small positive correlation between believing the media portrays the physically handicapped in a positive way and feeling knowledgeable about the physically handicapped.

There was a small positive correlation between believing the media portrays the physically handicapped in a positive way and believing there are negative attitudes towards the physically handicapped.

**Discussion**

A few areas of our research yielded interesting results. In particular, we found most interesting information related to how a person’s attitude is affected by knowing or living with an individual with a physical handicap, what people who live with a physically handicapped person think about the accommodations in our community, and the different attitudes held by people with different levels of education. We also found interesting information regarding a relationship between negative attitudes and people who felt uncomfortable around a physically handicapped person.

When researching our project, we were interested to see if knowing someone with a physical handicap affects a person’s attitudes towards people with a physical handicap. Based on our pre-existing notions and the information we found from our literature review, we believed someone who knows a person with a physical handicap would generally have a better attitude towards people with physical handicaps in general. We were also interested in the attitudes held by people who live with a person with a physical handicap. We hypothesized this group in particular would hold a more positive attitude towards individuals with a physical handicap.

Our research yielded interesting results. Our hypothesis regarding people who know a physically handicapped individual was supported by the data we found from our surveys. The data told us people who know someone who has a physical handicap tends to be more knowledgeable and have better attitudes towards individuals with physical handicaps. For example, we found people who know a person with a physical handicap disagreed with the statement, “I believe someone with a physical disability also has a mental disability” while people who didn’t know someone with a physical handicap were neutral on this issue. This shows people who know someone with a physical handicap are more knowledgeable about this issue. More importantly, people who know someone with a physical handicap disagreed with the statement “I feel uncomfortable around someone with a physical disability” whereas people who didn’t know someone with a physical handicap were neutral. Interestingly, we did not come across as many noteworthy findings relating to positive attitudes held by people who live with an person who is physically handicapped. One T-test actually revealed people who live with a person
who is physically handicapped said no to believing more awareness for the physically handicapped should be raised whereas people who didn’t live with a physically handicapped individual agreed that more awareness should be raised. Maybe there was another issue at play behind that answer. It is possible people who live with a physically handicapped individual don’t think more awareness should be raised because they believe enough awareness already exists. We did find that individuals who live with a physically handicapped person disagreed with the statement “the physically handicapped cannot function as effectively in most work environments”. This shows positive attitudes in people who live with a physically handicapped person.

Conversely, we felt individuals who didn’t live with or know someone with a physical handicap would have poorer attitudes towards individuals with physical handicaps. Our findings supported this hypothesis. We found a large positive correlation between feeling uncomfortable around the physically handicapped and believing a person with a physical handicap also has a mental handicap. Also, individuals who felt uncomfortable around physically handicapped people believed most handicapped people cannot function as effectively in the workplace. Additionally, we found a small negative correlation between feeling knowledgeable about the physically handicapped and feeling uncomfortable around the physically handicapped. We found an interesting correlation about people who feel uncomfortable around the physically handicapped which seemed a little counter-intuitive. The less people thought there were negative attitudes towards the physically handicapped, the more uncomfortable they felt. This was a slightly confusing finding that didn’t make a lot of sense. An area of interest in this section comes from the fact people who felt they were less knowledgeable about physically handicapped individuals didn’t feel comfortable communicating with a handicapped child. This indicates that an increase in knowledge and awareness about physically handicapped people could potentially lead to more people having better attitudes towards individuals with physical handicaps.

We were also interested to see if people who lived with a physically handicapped individual felt the community and workplaces were accommodating towards individuals with physical handicaps. A person who lives with a physically handicapped individual would have more insight into this than the average person. Interestingly, people who lived with a physically handicapped individual disagreed with the statement “the accommodations for the physically handicapped in our community our good” whereas people who didn’t live with a physically handicapped individual were neutral. Also, there was a small negative correlation between people who live with a physically handicapped individual and the belief that most workplaces in our community accommodate the physically handicapped. This means people
who live with a physically handicapped individual tend to believe work places in our community do not accommodate the physically handicapped. This provides an interesting insight into the accommodations for the physically handicapped in our community. If people who live with physically handicapped individuals tend to believe they are not good, this tells us we do have a problem with the accommodations for the physically handicapped in our community.

We also came across some interesting findings dealing with education levels. According to our research, individuals with a post-doctoral degree strongly disagreed that individuals with a physical handicap also have a mental handicap. Those with a high school diploma, an associate’s degree, a bachelors’ degree, a masters’ degree or a doctoral degree disagreed with the statement while those who have some high school/no diploma felt neutral when asked whether or not they thought that people with physical disabilities also had mental disabilities. This indicated a connection between higher levels of education and having more knowledge about individuals with a physical handicap. We also were interested to find that individuals who responded ‘I don’t know’ for their highest level of education disagreed with the need to raise awareness for the physically handicapped. Other education levels were either neutral or agreed. Perhaps those who weren’t sure what their education level was were confused by the question about raising awareness. The findings related to believing most work environments accommodate the physically handicapped and the level of education a person has were also interesting. Those with a doctoral degree disagreed while those with associates’ degrees were neutral. We thought this was interesting. We assume those with different levels of education work in different environments. Maybe their difference in opinion comes from the different work environments they are in.

**Conclusion**

In conclusion, our data yielded interesting results. The survey of 1904 people in the Bristol community gave us a large sample size of the population. It is important to remember that our study had 856 males and 1,029 females. This means our results relate more to females than it does to males. The majority of our hypotheses were supported by our findings. We believed that people who know someone or who live with someone with a physical handicap would have better attitudes; this was supported by our findings. Inversely, we thought people who didn’t know someone with a physical handicap would have worse attitudes, which also turned out to be true. We felt there would be a connection between higher levels of education and better attitudes towards the physically handicapped;
this was also true. Our research yielded interesting results that give new insight into attitudes held by Bristol community members towards individuals with physical handicaps.

**Recommendations**

To ensure confidentiality, it would have been more professional to keep the survey and the participant signature page separate and detached from one another. It would also give peace of mind to the person being surveyed.

Proof reading the survey multiple times preferable by multiple people would be ideal, to eliminate any typos or grammatically incorrect questions that existed on the final version of the survey. When there are spelling errors and grammatical errors, it takes away credibility from the researcher.

We recommend that more surveys be conducted online to reduce the waste of paper, and to make the survey easily accessible to more members of our sample.

We recommend that while writing the survey questions, the researcher takes into consideration that the survey participant may be handicapped themselves.

856 males were surveyed, and 1029 females were surveyed, so the sample is not representative of the population.
APPENDIX

Literature Review Works Cited


Thank you for taking part in our survey. This survey is being conducted through a course at Roger Williams University to complete set requirements. The purpose of the study is to determine attitudes and perceptions towards the physically handicapped and what factors might have a part in creating those attitudes. For the purpose of this study, we will define physically handicapped as any person who is handicapped in mobility or senses, such as hearing impaired or sight impaired. It does not include any mental incapacity.

Your participation is voluntary and very much appreciated. Please mark each response honestly with your own opinion; there are no right or wrong answers. The survey will take 10-15 minutes to complete. Please do not mark something because you feel it is the accepted or expected answer. The surveys will be anonymous and only those who have given you the survey will be witness to your answers. Your responses will be held confidential. In the event of publication, pseudonyms will be used. A participant may withdraw from the survey at any time. If you have any questions pertaining to this study, please contact Joanne Rotondo, Adjunct Professor at Roger Williams University, jrotondo@rwu.edu or Assistant Professor Amiiee Shelton at Roger Williams University, ashelton@rwu.edu or (401) 345-3277.

Please sign your name to verify that you have read the terms of the survey above and are ready and willing to complete the survey and aid us in our study.

I have read the above statement and agree to the terms it has set.

Name: ____________________________ Date: ______________

Thank you for your cooperation!
Section 1

1. I know someone who is physically handicapped.
   ___Yes or ___ No

2. I live with someone who is physically handicapped.
   ___Yes or ___ No

3. I come into contact with the physically handicapped at work:
   ___Yes or ___ No (if no, skip to question 5)

4. I feel confident communicating with physically handicapped colleagues at work:
   ___Yes or ___ No

5. I feel confident communicating with a physically handicapped child:
   ___Yes or ___ No

6. Do you feel more compassionate toward a physically handicapped veteran:
   ___Yes or ___ No

7. As a society, we have certain attitudes towards the physically handicapped. Where do you believe you obtained your perceptions?
   ___School
   ___Religion
   ___Friends
   ___Family
   ___Media
   ___Other, please specify: ____________________________________________

Section 2

Please check one number, where 1 is strongly disagree and 5 is strongly agree.

1. I believe that someone with a physically disability also has a mental disability.
   Strongly disagree
   ___1 ___2 ___3 ___4 ______5

2. Men’s and women’s attitudes towards the physically handicapped are different.
   Strongly disagree
   ___1 ___2 ___3 ___4 ______5

3. We should increase public awareness of the physically handicapped.
   Strongly disagree
   ___1 ___2 ___3 ___4 ______5

4. The accommodations for the physically handicapped in our community are good.
   Strongly disagree
   Strongly agree
5. Physically handicapped people cannot function efficiently in most work environments.
   Strongly disagree
   ____1  ____2  ____3  ____4  ____5
   Strongly agree

6. Most work environments in our community accommodate the physically handicapped.
   Strongly disagree
   ____1  ____2  ____3  ____4  ____5
   Strongly agree

7. Most public places in our community accommodate the physically handicapped.
   Strongly disagree
   ____1  ____2  ____3  ____4  ____5
   Strongly agree

8. I feel uncomfortable around physically handicapped people.
   Strongly disagree
   ____1  ____2  ____3  ____4  ____5
   Strongly agree

9. I am knowledgeable about the physically handicapped.
   Strongly disagree
   ____1  ____2  ____3  ____4  ____5
   Strongly agree

10. There are negative attitudes towards the physically handicapped.
    Strongly disagree
    ____1  ____2  ____3  ____4  ____5
    Strongly agree

11. The media portrays the physically handicapped in a positive way.
    Strongly disagree
    ____1  ____2  ____3  ____4  ____5
    Strongly agree

Choose the answer that best suits you:

1. How would you describe the socio-economic category of your household:

   ____ Less than $10,000
   ____ $10,000-$29,999
   ____ $30,000-$49,999
   ____ $50,000-$74,999
   ____ $75,000-$99,999
   ____ $100,000 or more

2. How would you describe your personal political orientation:

   ____ Very conservative
   ____ Conservative
   ____ Moderate
   ____ Liberal
   ____ Very liberal
   ____ I don't know
3. Indicate your highest level of completed education:

   ____ Some high school/No diploma
   ____ High school diploma or GED
   ____ Associates degree
   ____ Bachelors’ degree
   ____ Masters’ degree
   ____ Doctoral degree
   ____ Post-doctoral degree
   ____ Don’t know

4. Indicate your age:

   ____ 18-25
   ____ 26-35
   ____ 36-45
   ____ 46-55
   ____ 56-65
   ____ 66 or older

5. Indicate your gender:

   ____ Male
   ____ Female

6. Indicate your ethnic background:

   ____ Caucasian
   ____ Asian
   ____ African American
   ____ Native American
   ____ Hispanic
   ____ Portuguese
   ____ Other