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# Discrimination Against Disabled Persons in Malawi and the United States: A Comparative Study

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Honors Thesis

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## Abstract

Physically disabled individuals experience hardships that are more severe than the general public in both Malawi, African and in the United States. Disabled Malawians and Americans experience lower employment rates and lower annual incomes than the general public. Additionally, there is a lower educational attendance rate among disabled individuals in each country. This study sought to determine what factors contributed to these educational and employment deficiencies in both countries. Possible factors for the deficit may include discrimination, poor infrastructure, or the severity of the physical disability. A survey was administered to students (N = 52) at the University of Dayton and to students (N = 52) at the University of Livingstonia in Malawi. The first questionnaire asked participants to evaluate fictitious applicants applying to medical school, with one applicant pictured in a wheelchair. In theory, if participants rated the handicapped applicant as having a lower chance for success than the other applicants, discrimination would be present. No significant difference was found between ratings of the handicapped applicant and other applicants in either country. The second questionnaire evaluated how the participant felt the general public treated disabled persons. A strong relationship existed between "quality of transportation" and "access to education" in Malawi ($r(50) = .273$, $p \leq .05$). This indicates that a contributing factor for Malawi's lower school attendance rates among disabled persons is due to infrastructural limitations. In the United States there was a strong relationship between "discrimination of disabled persons by employers" with "access to education" ($r(50) = -.503$, $p \leq .001$). This indicates not a physical barrier inhibiting access to education, but a social barrier. We believe that future testing should be completed on a sample that is more representative of the overall population for each country. Participants in this study had a greater amount of schooling than the average American or Malawian, and so may not best represent the overall population.

## Dedication and Acknowledgements

I would like to thank my adviser, Dr. Thomas Farnsworth, who was an excellent mentor throughout the entire process. Without his expertise and encouragement, this thesis would never have come to completion. Dr. Farnsworth has had a great influence upon me, and I cannot thank him enough for all that he has done. His devotion to the wellbeing of all students is very admirable.

Gratitude is also expressed to Matt Maroon, who allowed for the survey to be distributed at the University of Livingstonia in Malawi, Africa. His selfless support was pivotal for data collection.

Finally, I wish to extend my appreciation to Dr. Ron Katsuyama, who spent several hours with me analyzing the collected data. Dr. Katsuyama is a professor who is dedicated to supporting his students and enhancing learning in any way possible.

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# Introduction

In Malawi, Africa and in the United States, many disabled individuals experience hardships that are more severe than the general public. With regards to education, there is a lower educational attendance rate among disabled individuals in each country (Cornell University, 2012). With regards to employment, both disabled Malawians and Americans experience lower employment rates and lower annual incomes (Loebe & Eide, 2004). This study aimed to discern what factors contribute to these deficits. Possible contributing factors that were considered were a discriminatory attitude, a lack of adequate infrastructure, inadequate disability legislation, or that the severity of some disabilities are simply too limiting. Participants from universities in Malawi and the United States were asked to evaluate and rate four fictitious applicants to medical school, with one of the applicants pictured in a wheelchair. This study tested whether unfavorable perceptions were placed upon the applicant pictured in a wheelchair. In theory, this tested whether a discriminatory attitude was projected onto physically disabled persons in both countries.

We hypothesized that unfavorable perceptions would be placed upon applicants pictured in a wheelchair in both countries. A second questionnaire was conducted to further analyze additional contributing factors to lower educational attendance rates and employment rates among physically disabled persons in both countries.

# Background

## History

*Malawi:* In 1964, Malawi declared itself to be free of British rule by Hastings Banda, who would eventually serve as life president. Malawi is currently a democratic governing nation under its 4th acting president, President Joyce Banda. Little over the size of Pennsylvania, Malawi lies in the southern portion of Sub-Saharan Africa and is home to 17.3 million people (CIA, 2014). Since Malawi declared its independence, it has been forced to confront a number of reoccurring issues. One of these issues is a dramatically increasing population. Malawi is currently experiencing a 3.3% growth rate with an average life expectancy of only 60 years. High HIV rates are a contributing factor to low life expectancy, with 10.8% of Malawians positive for HIV, ranking 10th highest in the world. In terms of medical resources, Malawi predictably does not fare well. A mere 8.4% of the GDP is spent on health expenditures. For every 50,000 Malawians, there is only 1 physician and 65 hospital beds available. In 2008, the National Statistics Office completed the Population and Housing Census finding that 4.0% of the population was disabled (NSO, 20008). Only 20% of educational institutions are wheelchair accessible, and 26% of all businesses are wheelchair accessible (Loebe & Eide, 2004). Among the 71 miles of roads in Malawi, 45% are paved (CIA, 2014). Economically speaking, Malawi's main industry is farming with 90% of Malawians claiming this as their occupation. The GDP per capita in Malawi is $900 (CIA, 2014).

*United States:* The United States is home to a population of 318.9 million people. The United States experiences a gradual population growth, marked at a .77% increase with the average American living to reach 80 years of age. Since the Second World War, the United States has held relatively steady economic growth, low inflation rates, and a rapid development of technology. The United States is argued to have the most technologically powerful economy in the world, with a per capita GDP of $49,800, which is noticeably much higher than Malawi (CIA, 2014). This free market economy has the second highest industrial output in the world. The United States allocates 17.9% of their GDP to health expenditures. For every 50,000 Americans, there are 121 physicians and 150 hospital beds. Unlike Malawi, whose greatest health related issue is HIV prevalence, the United

States greatest health related issue is arguably Obesity, with a prevalence of 33% (CIA, 2014). Approximately 20% of the United States population is defined as disabled (Kulow, 2012).

**Employment**

*Malawi:* Employment rates are surveyed for every year in Malawi as part of the Welfare Monitoring Survey undertaken by the National Statistical Office (NSO, 2012). The most current employment rate was last surveyed in 2011, finding that 84.2% of Malawians were employed. A survey conducted by Loeb & Eide in 2004 involving 1,570 subjects allowed for a comparison between disabled persons and people without a disability. Loebe & Eide found that 42.3% of disabled Malawians were employed compared to 46.7% of non-disabled Malawians. Disabled Malawians earned an average monthly salary of 2,413 Malawian Kwacha (MWK), or $5.70 USD. Non-disabled Malawians earned an average monthly salary of 3,530 MWK, or $8.71 USD.

*United States:* In the United States, disabled persons experienced lower employment rates, and lower annual earnings compared to the non-disabled in 2011. Fewer disabled Americans were actively searching for employment compared to individuals without a disability. According to the 2011 American Community Survey (ACS), the employment rate among non-disabled individuals aged 21-64 was 75.6% (University of Cornell, 2012). The employment rate of non-institutionalized disabled individuals was 33.4%, marking a 42.2% deficit. The median annual earning for individuals without a disability in 2011 was $42,800 and $36,700 for disabled persons. The survey found that only 11.7% of unemployed individuals with a disability were looking for work compared to 29.4% of individuals without a disability.

**Education**

*Malawi:* According to the survey completed by Loebe and Eide (2004), a greater percentage of physically disabled Malawians had never attended any form of schooling compared to non-disabled Malawians. A total of 33.0% of physically disabled Malawians had never attended any form of schooling compared to 17.7% of non-disabled Malawians. For the Malawians who had attended school, there were similarities between

disabled Malawians and non-disabled Malawians when analyzing the highest grade achieved. Loeb & Eide (2004) found that 85% of disabled and non-disabled Malawians had passed through Standard 8 or less, which is equivalent to an American elementary school education. No difference was again seen for secondary school, equivalent to an American high school education, between disabled and non-disabled Malawians. 13% of both disabled and non-disabled Malawians had completed secondary school. There was only a .6% difference between the disabled Malawians and non-disabled Malawians attending post-secondary school, with1.5% of disabled Malawians completing higher education compared to .9% of non-disabled Malawians (Loebe and Eide, 2004).

*United States:* According to Cornell University (2011), 34.5% of disabled persons' highest level of schooling was a high school diploma compared to 25.9% of individuals without a disability. Completion of a two year associates degree, or any form of college was earned by 30.6% of the disabled population, and by 32.4% of those without a disability. A bachelor's degree was earned by 12.5% of disabled individuals compared to 31.2% of individuals who do not have a disability (Cornell University, 2011). Ultimately, a greater percentage of non-disabled Americans had a higher level of education.

**Government Policy**

*Malawi:* In 1971, Malawi passed the Handicapped Persons Act, which was a major milestone for disabled persons who had been previously underrepresented. (Loebe and Eide, 2004). From 1971 to 1994, however, services for disabled persons were supported mainly by charities. One critique for this time period was that the rights of disabled persons were slow to progress. When new president, Bakili Muluzi, was elected in 1994, the Constitution of the Republic of Malawi was formed. Section 20 of the constitution prohibited discrimination of Malawians based on disability and called for equal pay by employers. In addition, the Ministry Responsible for People with Disabilities was incepted and given responsibility for handling issues related specifically to disabled persons. (MPDSPWD, 2006).

In 2012, under the new direction of President Joyce Banda, Malawi felt the need to pass the Disability Bill. Disabled persons were guaranteed non-discriminatory rights in terms of health, education, social life, housing, and political involvement (Disability Bill

2012, 2012). The Bill placed more of an emphasis on social issues and environmental barriers than previous legislation. One of the greatest distinctions from other disability legislation is the explication of legal action that can be taken if an individual suffers from discrimination, which was previously ambiguous. For instance, if a disabled person is discriminated against by an employer, the corporation or association is liable to a fine of 1,000,000 MWK ($2,400 USD). The act also requires the implementation of a national sign language, for which Malawi currently does not have (Disability Bill 2012, 2012). Even with new implementation, a recent study conducted still rated disability policies in Malawi as "low" (Mannan, McVeigh, Amin, MacLachlan, Swartz, Munthali, & Rooy, 2012).

*United States:* In 1973, the passage of section 504 of the Rehabilitation Act would affect the lives of many disabled persons in the United States. Section 504 states that programs receiving federal financial assistance could not discriminate based on the basis of disability. Though the rights of disabled persons were progressing, it would take another five years before Section 504 became more frequently interpreted by judicial courts (Rothstein, 2013). In 1990, Congress passed the Americans with Disabilities Act (ADA), which included five titles dealing with employment, public and private services, and telecommunications. The passage of the Act broadened the scope of who would be held accountable for discrimination. According to Rothstein (2013), discrimination laws were now applicable to employees with more than 15 employers, state and local government programs, and twelve categories of private service providers.

Title I of the Act protects disabled persons from employment discrimination by making it illegal to fail to make a "reasonable accommodation" so that the disabled individual can acceptably work. In order to make a "reasonable accommodation", the disabled person must be capable of performing the "essential functions of the job" with the addition of the accommodation. Termination of an employee, who has a disability but is capable of performing the essential functions of the job, is illegal, if the termination is based solely on disability (Kulow, 2012).

Since the passage of the ADA in 1990, the act has been restructured and multiple amendments have been enacted. The 2008 Amendment extended the definition of those who were disabled so that more people could be protected. Prior to the Amendment,

correctable impairments, such as hypertension, were not protected under the ADA (Rothstein, 2013). In 2010, the ADA was amended once again. This time, the Department of Justice required that all buildings be accessible to disabled persons by March 15, 2012 so long as the removal of the barrier was "readily achievable" (Weirich & Nielsen, 2012).

**Knowledge of origin**

*Malawi:* Malawi holds a past that is ridden with storytelling and passing legends from region to region, or family member to family member. These stories have contributed significantly to the Malawian culture. However, in some instances, these myths have been damaging to certain groups of people. One such example is a myth that provides an explanation for the origin of albinism. In Malawi, people with albinism are considered to be disabled. While this myth does not commonly exist in today's Malawian society, at one point it did. In this myth, a couple has sexual intercourse before they are lawfully wed. As a result, the couple is punished by the Gods with the birth of a child who has no limbs and no body. After this child marries a reluctant, but willing wife, he transforms and becomes and albino. His wife, who embraces him, also becomes an albino and they birth many albino children (Braathen & Ingstad, 2006). Stories like these are what have contributed to a misunderstanding of certain disabilities in Malawi. A study conducted in 2009 asked 60 guardians of children with clubfoot what they thought the cause of the disorder was. 55% of guardians believed that the origin was either due to God, curses or witchcraft (Bedford, Chidothi, Sakala, Cashman, & Lavy, 2011). A misunderstanding of mental disorder seems even more prevalent. In 2012, among 210 mentally ill patients and caregivers surveyed, 83% believed the affected individuals' mental illness was caused by spirit possession (Crabb, Stewart, Kokota, Masson, Chabunya, & Krishnadas, 2012).

# Methods

In this study, participants were chosen from the University of Livingstonia in Malawi and from students at the University of Dayton. At the University of Dayton, a full time faculty allowed for the survey to be administered in one of his classes. Likewise, at the University of Livingstonia the Dean of students administered an identical survey in one of his classes. In total, 52 students from each location completed the survey completely voluntarily. In the United States, 36.5% of the subjects (n=19) were males and 63.5% (n=33) were female. The majority of the participants identified themselves as 20-21 years old in the United States (78%). In Malawi, 50% of the participants (n=25) were male, and 50% were female (n=25). Two individuals failed to report their sex. The majority of the participants identified themselves as older than 24 years old (40%) in Malawi. Participants at both locations were not chosen based on sex or gender.

Participants were given a questionnaire and were also told that a second questionnaire would follow. The first questionnaire asked participants to imagine that they were reviewing applicants applying to medical school. Participants were informed of the general requirements needed to gain entrance into standard medical schools. The survey included four fictitious applicants who were applying for enrollment. In the United States the applicants were four white males. In Malawi, the applicants were four black males. Each application included a picture of the applicant posing in business formal attire. One of the four pictured applicants was shown sitting in a wheelchair, representing a physical disability. A short 8-10 sentence narrative was included to the right of the picture. The narrative included the individual's family history, previous schooling, and standardized test results. For each fictitious applicant, there included five questions that asked the participant to rate the pictured individual's past and future chances for success. The four different applicant pictures and the four different narratives were assigned to each other at random for each survey. In doing so, the intent of the ratings of applicant could be analyzed on the basis of the picture of the applicant and not the narrative for the applicant.

After participants completed the first section, the questionnaire was collected and participants were handed a second questionnaire. The second questionnaire included 12 questions which assessed how the participant thought the public perceived issues

regarding physical disabilities. Questions asked participants to evaluate public policy on disabilities, the quality of transportation and other infrastructure for disabled persons, whether discrimination existed in the employment sector, and the general knowledge of the origin of disabilities.

The surveys were administered in September and October of 2013. The survey responses were analyzed using a program called IBM SPSS Statistics. A two tailed t-test was used to discern whether statistical difference existed between responses given to the applicant pictured in the wheelchair and applicants who were not pictured in a wheelchair. SPSS was also used to analyze data collected from the second questionnaire.

# Results

No significant difference resulted when participants rated applicants pictured in a wheelchair vs. applicants not pictured in a wheelchair in both countries. When participants were asked questions regarding how the public viewed disabilities, a large number of participants felt a need for improvement in public transport and access to education in both countries. A large number of both Malawian and American participants also felt that discrimination in the employment sector and as a misunderstanding of the origin of disabilities does exist. A strong correlation exists in Malawi between "quality of transportation" and "access to education". In the United States, a strong correlation exists between "discrimination by employers" and "access to education".

FIRST QUESTIONNAIRE

The first questionnaire asked participants to evaluate applicants to medical school. The first question asked applicants to rate how likely the candidate would be accepted to medical school on a 10 point scale (0 = *not likely* and 10 = *very likely*). In Malawi, the mean rating for the handicapped applicant was 7.2, which was not significantly different from other applicants. In the United States the mean rating was 6.8, which was also not significantly different from other applicants.

Figure 1.1

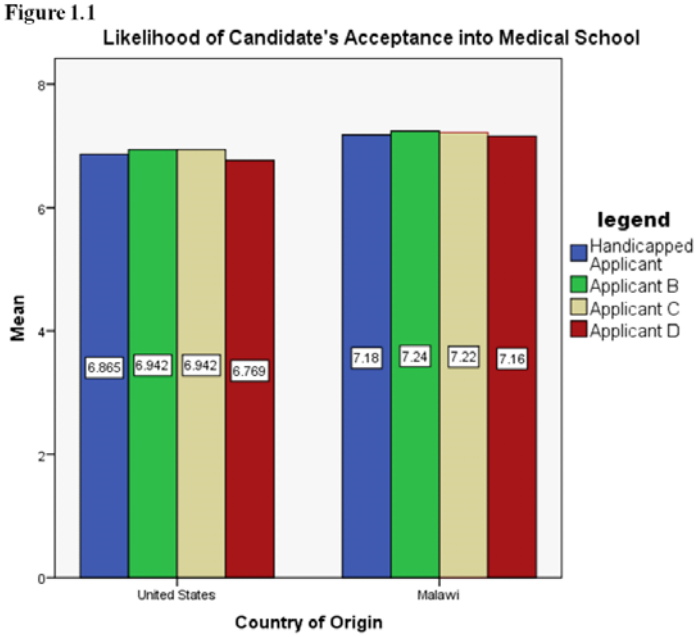


**Figure 1.1:** Participants were asked to rate on a 10 point scale (0 = *not likely* and 10 = *very likely)* the likelihood that the each candidate would be accepted into medical school.

The second and third question asked participants to rate how well the applicant would perform in medical school and as a physician using a 10 point scale (0 = *very poorly* and 10 = *very well*). Figure 1.2 reveals that, in the United States, the handicapped applicant was rated highest, but there was no significant difference between applicants. Malawian participants rated the applicant pictured in the wheelchair lowest. However, there was no significant difference between applicants.

**Figure 1.2**

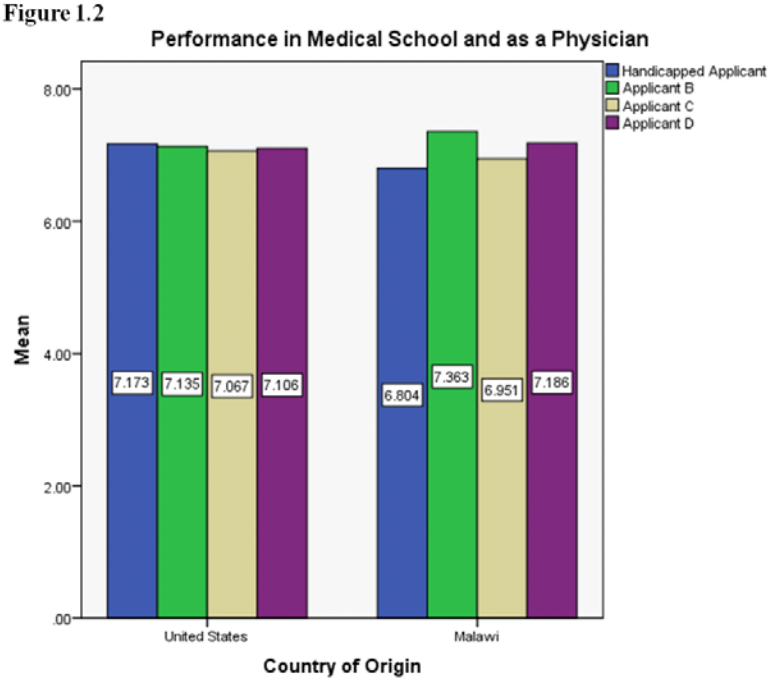


**Figure 1.2:** Participants were asked to rate on a 10 point scale (0 = *very poorly* and 10 = *very well)* how well each applicant would perform in medical school and as a future physician.

The fourth question asked participants to rate whether the applicant had better, equal, or worse opportunities than the general public. The fifth question asked participants to rate whether the applicants' children would have better, equal, or worse opportunities than the general public.

Table 1.2 reveals that 48.1% of participants believed the American handicapped applicant had better opportunities than the general public and 63.5% believed that the handicapped applicant's children would have better opportunities than the general public. This indicates that 15.4% more participants believed the applicant's children would have better chances than the handicapped applicant had. 51.3% of participants believed that

applicants who were not pictured in a wheelchair had better opportunities than the general public and 61.6% believed their children would have better opportunities than the general public. This reveals that 10.3% of the participants believed the applicant's children would have better opportunities than the applicant did.

**Table 1.1 United States**

**Rating applicant's previous opportunities and his children's future opportunities**

| | Percent (%) | |
|---|---|---|
| **Applicants B, C and D** | Better | Equal or worse |
| Did this person have the same opportunities as everyone else growing up? | 51.30% | 48.70% |
| Will this person's children have the same educational opportunities as everyone else? | 61.57% | 38.50% |

**Table 1.2 United States**

**Rating applicant's previous opportunities and his children's future opportunities**

| | Percent (%) | |
|---|---|---|
| **Handicapped Applicant** | Better | Equal or worse |
| Did this person have the same opportunities as everyone else growing up? | 48.10% | 51.90% |
| Will this person's children have the same educational opportunities as everyone else? | 63.50% | 36.50% |

Among the Malawian participants surveyed, 30.8% believed that the applicant pictured in a wheelchair would have better opportunities than the general public and 36.5% believed that the applicant's children would have better opportunities than the general public. This marks a 5.7% better opportunity for the applicant's children than the handicapped pictured applicant. 29.5% of participants believed that the applicants not pictured in a wheelchair had better opportunities than the general public, and 36.5% of the applicants' children would have better opportunities than the general public. This indicates that 7.0% more applicants believe the applicants' children will have better opportunities than the applicants.

**Table 1.3 Malawi**

**Rating applicant's previous opportunities and his children's future opportunities**

| | Percent (%) | |
|---|---|---|
| **Applicant B,C and D** | Better | Equal or worse |
| Did this person have the same opportunities as everyone else growing up? | 29.47% | 70.53% |
| Will this person's children have the same educational opportunities as everyone else? | 36.53% | 63.47% |

**Table 1.4 Malawi**

**Rating applicant's previous opportunities and his children's future opportunities**

| | Percent (%) | |
|---|---|---|
| **Handicapped Applicant** | Better | Equal or worse |
| Did this person have the same opportunities as everyone else growing up? | 30.80% | 69.20% |
| Will this person's children have the same educational opportunities as everyone else? | 36.50% | 63.50% |

The final question of the first questionnaire asked participants to select only one applicant for acceptance into medical school. In both the United States and in Malawi, the wheelchair pictured applicants were not selected any differently from other applicants. Table 1.5 shows that in the United States the handicapped applicant was accepted by 21.2% of participants and this was a similar result for applicants B and D. Applicant C was accepted by 34.6% of participants.

**Table 1.5**
**Applicant chosen for acceptance in the U.S**

| | Percent (%) |
|---|---|
| Handicapped Applicant | 21.20% |
| Applicant B | 23.10% |
| Applicant C | 34.60% |
| Applicant D | 21.20% |

**Figure 1.5:** Participants were asked to choose only one applicant for acceptance into a medical school in the United States

In Malawi, the handicapped applicant was chosen by 26.9% of Malawian participants, which was the highest acceptance rate. This acceptance was not significantly different from applicants B, C and D which are reported below in table 1.6.

**Table 1.6**
**Applicant chosen for acceptance in Malawi**

| | Percent (%) |
|---|---|
| Handicapped Applicant | 26.90% |
| Applicant B | 21.20% |
| Applicant C | 23.10% |
| Applicant D | 25.00% |

**Figure 1.6:** Participants were asked to choose only one applicant for acceptance into a medical school in Malawi

## DISCRIMINATION AND EMPLOYMENT

The second questionnaire included 12 questions related to discrimination, infrastructural limitations, public policy and knowledge of the origin of disabilities. The first question asked participants if disabled persons were discriminated by employers. A bulk of the American participants (76.5%) felt that disabled persons are moderately discriminated by employers. This was followed by 15.7% of American participants who felt that disabled persons were severely discriminated against. In Malawi, as seen in figure 1.3, the majority of Malawians (51.0%) felt that disabled persons were severely discriminated by employers. 39.2% of participants felt that disabled Malawians were moderately discriminated against and 9.8% felt that they weren't discriminated against.

**Figure 1.3**

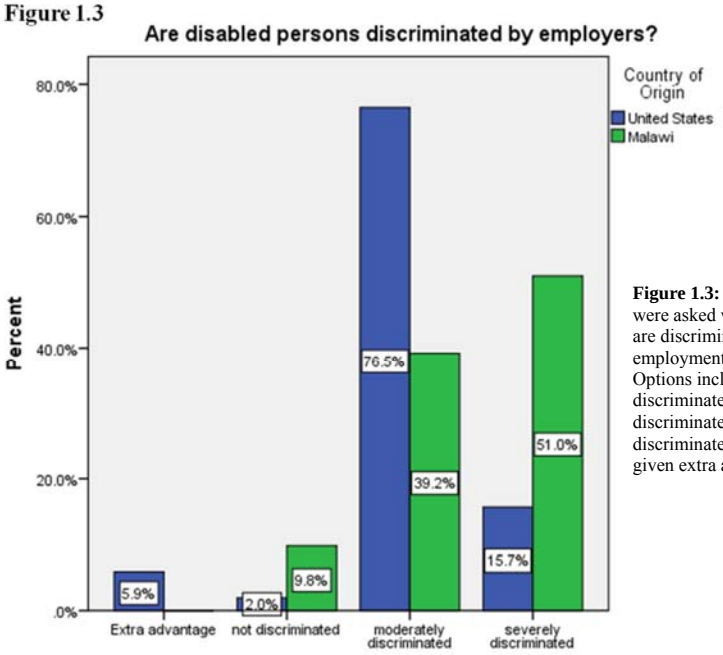


**Figure 1.3:** Participants were asked whether people are discriminated against in employment selections. Options included: Severely discriminated, moderately discriminated against, not discriminated against, or given extra advantage.

TRANSPORTATION

Another component of the second questionnaire was an evaluation of the infrastructural resources available to disabled persons. Participants were asked questions about rehabilitation programs, educational institutions, and public transport for disabled persons. Participants were asked to rate the quality of transportation available to persons with physical disabilities based on a 10 point scale (0 = *Poor quality* and 10 = *Excellent quality)*. On average, Malawi rated the quality of transportation lower than the United States. Malawi participants rated their transportation at M = 3.42, ±2.23 SD and the United States rated transportation at M = 5.05 ±2.00 SD. Figure 1.4 reveals that most Americans felt their quality of transportation was average quality (48.1%), followed by poor quality (26.9%) and finally excellent quality (25.0%). The majority of Malawians felt that they had poor quality (53.9%) followed by average quality (38.46%) and finally excellent quality (7.7%).

**Figure 1.4**

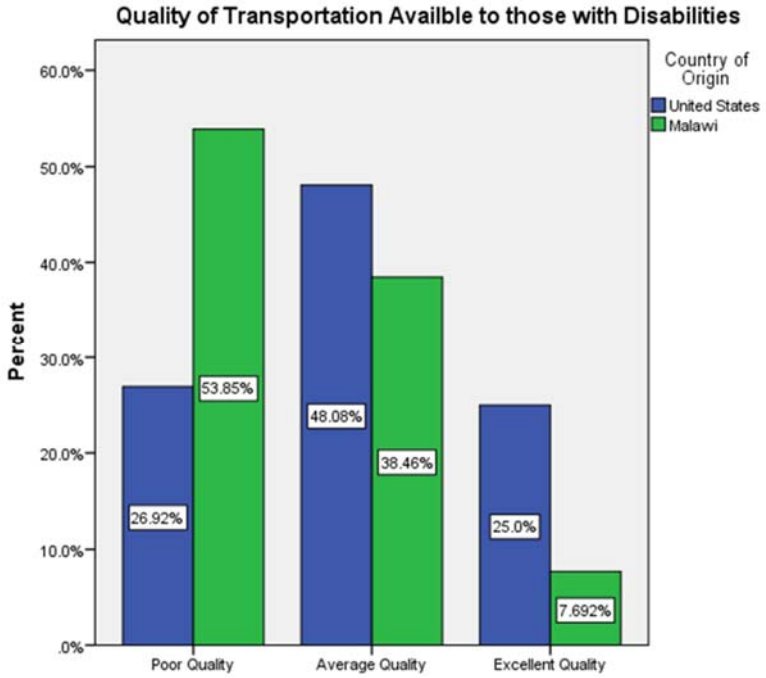


**Figure 1.4:** Participants were asked to rate on a 10 point scale (0 = *poor quality* and 10 = *excellent quality*) the quality of transportation available to persons with physical disabilities.

EDUCATION

Participants were asked to assess whether disabled persons have an equal access to education. Participants were asked this based on a 10 point scale (0 = *severely deficient* and 10 = *equal access*). On average, Malawi rated their access to education only slightly lower than the U.S with an M = 5.69 ±2.64 SD compared to the U.S with an M = 6.75 ± 2.04 SD.

REHABILITATTION

There were three questions included in the second questionnaire which aimed to assess the perception of rehabilitation resources available to the disabled. The first question asked if there was a need for more rehabilitation programs. The second question asked if there was a need for more rehabilitation health professionals. The third question asked participants if there was a need for improvement of quality. The United States had a large amount (85%) claim a need for more programs and also a high number (84%) claim a need for more professionals. Malawian participants also had a high response (96%) for more programs and more professionals (96%). Malawian participants rated the need for better quality programs (98%) much higher than American participants (65%).

**Table 1.7**

| **United States** | Percent (%) | | |
|---|---|---|---|
| | Yes | No | Indifferent |
| Need for more rehabilitation programs: | 85 | 4 | 11 |
| Need for more rehabilitation professionals: | 84 | 6 | 10 |
| Need for improved rehabilitation programs: | 65 | 8 | 27 |

**Table 1.8**

| **Malawi** | Percent (%) | | |
|---|---|---|---|
| | Yes | No | Indifferent |
| Need for more rehabilitation programs: | 96 | 2 | 2 |
| Need for more rehabilitation professionals: | 96 | 2 | 2 |
| Need for improved rehabilitation programs: | 98 | 2 | 0 |

GOVERNMENT POLICY

Participants were also asked to rate whether they believed their government had created the best policies possible for people with physical disabilities with the option of marking yes, no, or not informed well enough. Figure 1.5 reveals that 55.8% of United States participants were not informed well enough on disability policy to answer the question. A total of 38.5% of American participants did not believe that the best policies had been created and 5.8% believed that the best policies were in fact in place. The majority (37.3%) of Malawians felt that the most effective policies had been created followed closely (35.3%) by Malawians who did not. 25.7% of Malawians did not feel informed enough to answer the question.

**Figure 1.5**

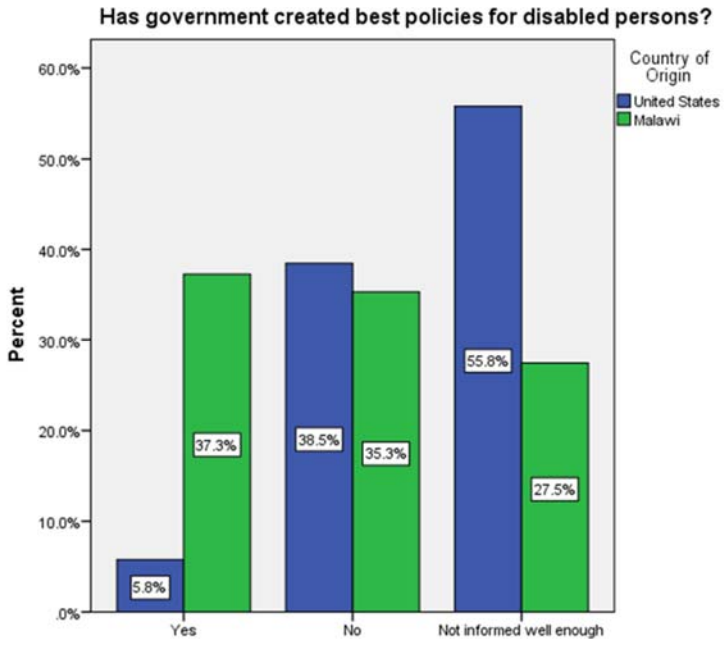


**Figure 1.5**: Participants were asked if the government had created the best policies available for persons with physical disabilities. Options included: yes, no, and not informed well enough.

UNDERSTANDING OF DISABILITY

Participants from both countries were asked to rate the accuracy of the public's understanding of the origin of physical disabilities on a 10 points scale (0 = *severely uneducated* and 10 = *very educated*). United States participants rated the general public's knowledge of disabilities as lower (M = 3.49 ± 1.65 SD) compared to Malawi (M= 4.77 ±2.00 SD). Figure 1.6 shows that the majority (55.8%) of American participants felt that the public was severely uneducated with the origin of physical disabilities. Only 3.9% of American participants felt the general public was very educated. In Malawi, 19.2% felt that the public was severely uneducated, 65.4% felt the public was slightly uneducated, and 15.4% felt that the Malawian public was very educated.

**Figure 1.6**

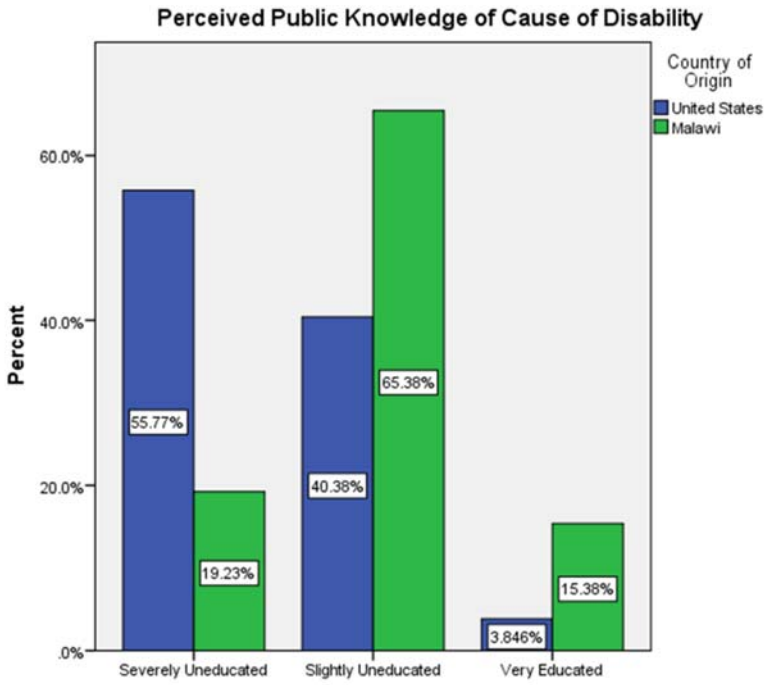


**Figure 1.6**: Participants were asked to rate on a 10 point scale (0 = *severely uneducated* and 10 = *very educated)* the public's understanding of the causes for physical disabilities.

CORRELATION

A Pearson product-moment correlation coefficient test was conducted to compare the relationship between "quality of transportation" and "access to education" for disabled persons. There was a strong correlation in Malawi for quality of transport with access to education $r(50) = .273$, $p \leq .05$. No significant correlation was found in the United States when the test was completed.

**Table 1.9** **Paired Samples Correlations[a]**

| | | N | Correlation | Sig. |
|---|---|---|---|---|
| Pair 1 | Quality of transportation for disabled persons & Access to education | 52 | .273 | .050 |

a. Country of Origin = Malawi

**Table 1.9:** Correlation between rated quality of transportation and rated access to education

A Pearson product-moment correlation coefficient test was also conducted to compare the relationship between "discrimination of disabled persons by employers" with "Access to education." In the United States there was a strong correlation $r(50) = -.503$, $p \leq .001$ between the two. No significant correlation was found in Malawi.

**Table 1.10** **Paired Samples Correlations[a]**

| | | N | Correlation | Sig. |
|---|---|---|---|---|
| Pair 1 | Discrimination of disabled persons by employers & Access to education | 51 | -.503 | .001 |

a. Country of Origin = United States

**Table 1.10:** Correlation between multiple choice response for discrimination of disabled persons by employers and rated access to education

# Discussion

In light of the research, no statistical significance was found for the hypothesis. The hypothesis stated that unfavorable perceptions would be projected upon the applicant pictured in a wheelchair in both countries. Despite no statistical significance being found for the hypothesis, it does not eliminate the possibility that discrimination is a contributing factor to lower employment rates and lower school attendance for disabled persons in both countries. The population sampled for in Malawi and in the U.S is not the best representation of either country. In Malawi, one percent of the population earned a diploma or degree at a higher education institute in 2011. The participants surveyed in Malawi may have been exposed to more information regarding physical disabilities during their educational experience, which could explain why no unfavorable perceptions were noted for the disabled applicant. While not as dramatic, a similar conclusion can be reached for participants surveyed at the University of Dayton. The top 30.9% of the American population held a degree from a higher education institute in 2012 (U.S. Bureau of labor Statistics, 2014). A better sample would include individuals whose highest degree was earned at a primary school (high school) in both countries.

Additionally, it would be beneficial to test more populations of people to determine if the experimental design has validity. There were two interesting results that occurred during the first questionnaire that called into question the validity of the test. In Malawi, applicant B's future performance as a medical student and physician was rated higher than other applicants. One explanation for this may be that the pictured applicant looks more serious than the other applicants. He is also pictured in front of what appears to be a sophisticated architectural structure. This may lead participants to believe that the applicant has a higher socioeconomic status than the other candidates. In the United States, an overwhelming amount of American participants (34.60%) chose applicant C as the candidate that they would admit into medical school. One possible explanation for this may be that he looks younger, more enthusiastic, and most attractive. The candidate arguably looks most like a college student, and perhaps University of Dayton participants were more likely to choose someone who looked most like themselves. In any case, this experimental design has never been used to measure discrimination and more tests need to be completed to determine its effectiveness.

When assessing the second questionnaire, which dealt more with public perception rather than personal perception, there are some interesting findings to note. One of these was a rather severe rating of rehabilitation programs and professionals in the United States. Table 1.7 shows that both United States participants and Malawian participants rated these programs harshly. Statistics that measure the quality of health care offered in both countries, completed by the CIA world report, have the United States rated much higher than Malawi in every category. For example, the United States has a physician to citizen ratio of 24.2 physicians for every 10,000 citizens compared to Malawi's .2 (CIA, 2014). We expected a considerable difference of ratings of rehabilitation programs between both countries. An explanation for this may be that the United States holds higher standards for their more technologically and economically advanced society. Malawi's almost unanimous call for more programs, more health care professionals, and better quality programs may be a desire to increase the mere 8.4% of the GDP spent by the government on health related expenditures (CIA, 2014).

The United States participants appeared unhappy with the current state of policies related to physically disabled Americans. The number of participants that did not feel the most effective policies were in place was six times the amount of those who felt that the most effective policies were in place. A study by Burkhauser, Schmeiser, & Weathers (2012) states that despite the federal government's attempt to provide effective anti-discriminatory legislation over the past 40 years, the employment rates among disabled persons has gradually decreased. Prior to the implementation of the ADA, employers in states with anti-discrimination laws were more willing to give their employees workplace accommodation after the onset of a disability. This was because the legislation was state policy versus federal policy (Burkhauser, Schmeiser, & Weathers, 202). In Malawi, a much different result occurred. The ratio of participants who felt that the best policies were in place was in equal ratio with those who did not. This better rating may have resulted from the recent enactment of the Disability Bill in a country which has little history of disability legislation. In 2012, the Disability Bill was signed into law by President Joyce Banda, which made more clear what legal repercussions would result from maltreatment (Disability Bill 2012, 2012).

Next, we will focus on the significant findings that were discovered. In the second

questionnaire, participants were asked if they felt disabled persons had equal access to education. Access can be hindered by infrastructural limitations, a deficient number of special needs teachers, inadequate implementation of education, or a discriminatory attitude. In Malawi, there was a strong correlation between "quality of transport" and "access to education" at $p \leq .05$. This indicates that the low quality of transportation may be a contributing factor to poor access to education for disabled Malawians. In Malawi, 20% of schools are accessible to wheelchairs and 26% of businesses are accessible to wheelchairs (Loebe & Eide, 2004). Only 45% of the 71 miles of roads in Malawi are paved (CIA, 2014). We reason that a lack of wheelchair accessible transportation may be a significant contribution to the 15.3% lower school attendance rates among disabled Malawians compared to non-disabled Malawians.

In the United States, there was a strong correlation between "discrimination of disabled persons by employers" and "access to education" at the $p \leq .001$. This indicates that a discriminatory attitude may be a contributing factor to a decreased access to education for disabled Americans. A study conducted by Sullivan and Knutson concluded that the prevalence of maltreatment for k-12 students was 3.4 times higher among disabled Americans than non-disabled Americans (Sullivan & Knutson, 2000). The barrier to education may not be a physical barrier, but rather a social barrier for disabled Americans. The social barrier of discrimination that inhibits disabled Americans from attending school may be the same that discriminates in the workforce. This conclusion is not definitive, and it should be further investigated why such a majority (76.5%) of Americans believes that disabled persons are moderately discriminated by employers.

Finally, this study makes a claim for both countries to improve their understanding of the cause of physical disabilities. In the United States, only 3.8% of participants felt that the public was educated on the cause and 15.4% in Malawi. An improved understanding is especially worthwhile in Malawi, in which popular theories for causation of disabilities include God, witchcraft, or spirit possession (Bedford, Chidothi, Sakala, Cashman & Lavy 2011). A more informed understanding of the origin of certain disabilities will allow for better treatment of disabled persons and a greater opportunity for inclusion in society.

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# Appendix

## A: American pictures used in United States Survey

### 1. American pictured applicants

Handicapped Applicant | Applicant B | Applicant C | Applicant D

## B: American Narratives

### 1. American narrative 1

**Name:** **Ben Durst**

**Date of Birth:** **December 15, 1990**

Information: I am the oldest and only child of my family. I attended Barrington high school at the age of 13. I was involved in debate club all four years that I attended. I also was involved in American Computer Science League. I enrolled at Rhode Island College with a major in Biology. I struggled my freshman year because I didn't spend enough time devoted towards studying or getting enough sleep. After I realized that I wouldn't gain acceptance into medical school with average grades, I began to work very hard. I raised my GPA high enough to gain admission into the Honors Society at Rhode Island College. Although I received average scores on the MCAT, I believe that my hard work and dedication are good indicators for the success I will have as a doctor. ***Narrative 1 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.***

2. American narrative 2

Name: Frank Gorman

Date of Birth: November 12, 1989

Information: I was born in Ada, Michigan. When I was 13 years old I attended Eastern High School. My first two years I struggled to maintain a good GPA. I was the president of a service club called Interact which allowed me to create projects such as trash pick-ups, soup kitchens, and others. I applied to Kellogg community college where I earned good grades. I was able to transfer in to Michigan State University where I majored in Biochemistry. I worked with a professor to publish an Honors Thesis on a medical related topic. I want to become a Doctor so that I can provide for my family and connect with others. *Narrative 2 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.*

3. American narrative 3

Name: Sean Levy

Date of Birth: November 12, 1989

Information: I was born in the city of Altoona, Pennsylvania. I have one older sister who is an orthopedic surgeon. I attended Altoona High school when I was 14 years old. I was a staff member of the school newspaper and was selected to be a copy editor due to my proficient English skills. I graduated in the Honors Society in the top 25% of my class. I went to the University of Pittsburgh where I achieved a good GPA. In my spare time I traveled as a member of the bowling team across the country. I graduated with a B.S. in pre-medicine. I believe that I am a strong candidate due to my people skills and work ethic. *Narrative 3 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.*

4. American narrative 4

Name: Joseph Adams

Date of Birth: June 10, 1990

Information: I was born in Centerville, Ohio. I am one of three siblings in my family. I attended Centerville High School where I was elected Vice President of Student Council. I identified my strengths in Science and was an active member of the Science Club at my school. I scored well on my ACT and enrolled at Miami University in Oxford, Ohio. At College I joined the fraternity Alpha Epsilon Delta, a pre-health professional fraternity. I scored well on my MCAT and now I'm looking to optimize my scientific skills as a Doctor. *Narrative 4 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.*

## C: Malawians pictures used in Malawians Survey

1. Malawian pictured applicants


## D: Malawian narratives

1. Malawian narrative 1

**Name:** Dryford Manjurie
**Date of Birth:** 28 February 1989
**Information:** I was born in Songwe in the Koronga district. I am an only child and my mother is the only member of my family. When I was six, I attended Koronga Primary School where I excelled as a reader. I spent many afternoons in the school library checking out several books. My dedication to learning English is what placed me at Chaminade Secondary School – a very good school. While I was there, I volunteered with an NGO called Lusubilo where I had the opportunity to work at orphanages, feeding programs, and even health centres. After I spent time working with people at the Health Centres I realized that these were the people that I wanted to help. After earning my MSCE, I completed the GCE with very high marks in Chemistry and Biology. ***Narrative 1 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.***

2. Malawian narrative 2

**Name:** Frackson Gondowe
**Date of Birth:** 9 OCtober 1988
**Information:** I was born near Blantryre and at the age of five I attended Manja Primary school. I am one of two brothers, and my father now lives in Lilongwe. When I was growing up I helped my father farm the grain from our fields. I

advanced through primary school with good marks and was selected to Chickwawa Boys Secondary school. I found myself interested in technical drawing and considered becoming a builder. After completing several science experiments in the science lab I knew that Science was my strength. In my GCE, I scored A's in Biology and Chemistry. I hope to become a doctor so that I can make my father proud. *Narrative 2 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.*

3. Malawian narrative 3

**Name:** Frank Ndhlozi
**Date of Birth:** 4 March 1987
**Information:** I was born on a farm in the Thyolo district. At the age of 6 I attended Mabuwa Primary School where I became fluent in English. I advanced through school and performed well on my standard 8's. I was selected to Thyolo Secondary School. After passing Form 3, my family struggled to pay school fees and so I was forced to take a year off. When I returned I earned a score of 12 on my MSCE, which I consider to be good. While I was in Secondary School I was involved in the choir at my church. I volunteered at a feeding program when I had free time. I think that the biggest motivation for me to become a doctor is because I want to bring good health to others. *Narrative 3 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.*

4. Malawian narrative 4

**Name:** Simon Mangani
**Date of Birth:** 6 June 1989
**Information:** I was born in in Nd'uma village which is in the Zomba district. I am the oldest of 4 brothers and 2 sisters and have a mother and father. At age 6, I attended Sir Harry Johnston International primary school where I was fortunate to get a good education. I spent much of my time playing netball with friends. After passing my Primary 8's I was selected to Malindi Secondary School where I found my passion for computers. I became the computer club president of my school where I oversaw 7 club members. After completing my MSCE, I took the GCE and passed in these subjects: Biology, Chemistry, English, Mathematics, Geography, and Computer Technology. I want to be a doctor so that I can return to my village and work in a Health Centre near my home. *Narrative 4 was assigned equally to the handicapped applicant, applicant B, applicant C, and applicant D.*

## D: Follow-up questions to each applicant

1. On a scale of 0 to 10 how likely do you believe that this candidate will be accepted into Medical school?

0 1 2 3 4 5 6 7 8 9 10
Not Likely Moderate Very Likely

2. On a scale of 0 to 10 how well do you think this individual would perform in Medical School?

0 1 2 3 4 5 6 7 8 9 10
Very Poorly Average Very Well

3. On a scale of 0 to 10 how well would this individual perform as a doctor?

0 1 2 3 4 5 6 7 8 9 10
Very Poorly Average Very Well

4. Do you think that this person had the same opportunities as everyone else growing up? Please check the appropriate box.

__ This person had better opportunities than most Americans (or Malawians)
__ This person had equal opportunities as other Americans (or Malawians)
__This person had worse opportunities than most Americans (or Malawians)

5. Do you think that this person's kids will have the same educational opportunities as everyone else? Please check the appropriate box.

__ This person's children will have better opportunities than most Americans (or Malawians)
__ This person's children will have equal opportunities as other Americans (or Malawians)
__ This person's children will have worse opportunities than most Americans (or Malawians)

## E: Last question of questionnaire 1

1. If you could select only one applicant to be accepted to the College of Medicine who would you select?

## F : Questionnaire 2

1. Do you think that physically disabled persons have the same opportunities as everyone else?

__ Disabled persons have more opportunities
__ Disabled persons have equal opportunities
__ Disabled persons have less opportunities

2. Do you think that the government has created the best policies available for persons with physical disabilities?

__ Yes
__ No
__ Not informed well enough

3. Please rate on a scale of 0 to 10 the quality of transportation available to persons with physical disabilities.

0 1 2 3 4 5 6 7 8 9 10
Poor Quality Average Quality Excellent Quality

4. Do you think that persons with physical disabilities have equal access to education? Please rate on a scale of 0 to 10.

0 1 2 3 4 5 6 7 8 9 10
Severely Deficient Slightly Deficient Equal Access

5. How would you rate the public's understanding of the causes for mental and physical disabilities in the United States (or Malawi)? Please rate on a scale of 0 to 10.

0 1 2 3 4 5 6 7 8 9 10
Severely Uneducated Slightly Educated Very Educated

6. Do you think that people are discriminated against in employment selections? Please check the best answer.

__ Physically Disabled persons are severely discriminated against when seeking employment
__ Physically Disabled persons are moderately discriminated against when seeking employment
__Physically Disabled persons are not discriminated against when seeking employment
__ Physically Disabled persons are given an extra advantage when seeking employment
__ Other

7. Do you think that the quality of life of physically disabled persons has increased in the United States (or Malawi) in the past 5 years?

__ Yes
__ No
__ Indifferent

8. Compared to other countries how do you think the United States (or Malawi) compares? Please check the correct answer.

__ The United States (or Malawi) has substantially better practices than most countries for physically disabled persons.
__ The United States (or Malawi) has moderately better practices than most countries for physically disabled persons.
__The United States (or Malawi) has equal practices for physically disabled persons.
__ The United States (or Malawi) has moderately worse practices than most countries for physically disabled persons.
__The United States (or Malawi) has substantially worse practices than most countries for physically disabled persons.

9. Do you think that family care takers of severely disabled persons are treated negatively by the common public? You may check more than one if you believe that more than one answer can occur simultaneously.

__ Yes family care takers are treated negatively
__ Family care takers are treated equally
__Family care takers are treated positively

10. Do you think that there is a need for more physical rehabilitation programs in the United States (or Malawi)?

__Yes
__ No
__ Indifferent

11. Do you think that there is a need for more physical rehabilitation health professionals (therapists, doctors, etc.) in the United States (or Malawi)?

__ Yes
__ No
__ Indifferent

12. Do you think that the quality of most physical rehabilitation services in the United States (or Malawi) need to improve?

__Yes
__ No
__ Indifferent