The Effect of Participant Age on Attitudes Toward People with Disabilities

Carrie Burkhardt and Lauron Haney

Hanover College

2011-2012
Abstract

This study was designed to evaluate whether participants’ age influences their attitudes toward individuals with physical disabilities. Participants completed an online survey consisting of three assessments of their attitudes toward disabled individuals: a projective measure of explicit attitudes (the Multidimensional Attitudes Scale Toward Persons with Disabilities), a self-report measure of explicit attitudes, and an Implicit Associations Test to measure their implicit attitudes. We also evaluated their level of contact with people with physical disabilities. We expected to find main effects for age, with older adults possessing more negative explicit and implicit attitudes toward people with physical handicaps than younger adults. We expected to see these age differences in part because of the passage of more recent laws, including the Americans with Disabilities Act (ADA, 1990), that have reinforced more positive attitudes toward people with physical disabilities. In addition, we expected these effects to be moderated by personal relationships and experiences, such that the age difference may be less pronounced among individuals who have had quite a bit of experience with people with disabilities. Results of this study showed confirmed our hypothesis that older adults had more negative implicit and explicit attitudes toward people with physical disabilities than did younger adults; however, the age effect was not moderated by participants’ experience with people with disabilities. Participants’ implicit attitudes appeared more negative than their explicit attitudes.
The Effect of Participant Age on Attitudes Toward People with Disabilities

Over the past several decades, many laws have been established in an effort to decrease discrimination toward numerous minority groups within the United States. This fight began with the passage of the Civil Rights Act of 1964, which launched the legal effort to eliminate discrimination on the basis of nationality, religion, or race (Karger & Rose, 2010). However, in this movement, a sizeable minority group, people with disabilities, was ignored completely (Disability Stats and Facts, 2009). Although laws were passed in the following decades that protected people with disabilities in small ways, such as Section 504 of the Rehabilitation Act of 1973 and the 1988 Fair Housing Act, it was not until 1990 with the passage of the Americans with Disabilities Act (ADA), that people with disabilities received protection from discrimination that was as comprehensive as that of other minorities (Karger & Rose, 2010). As a result of the passage of the ADA, many positive changes for people with disabilities occurred. For example, according to the 2010 Kessler Foundation/National Organization on Disability (NOD) Survey of Americans with Disabilities, significant gains have been made in the areas of educational achievement and political participation. However, even with the many positive changes, the ADA leaves people with disabilities unprotected in some ways, and large gaps remain between Americans with disabilities and those without. The ADA allows exceptions to providing appropriate public accommodation if it is too difficult for the owner of the facility to alter the building, and level of difficulty is left largely open to interpretation for example (Karger & Rose, 2010). Moreover, in a national survey, only 21% of people with disabilities report being employed compared to 59% of people without a disability (2010 Kessler Foundation/NOD Surveys of Americans with Disabilities). Additionally, of those disabled persons who are employed, nearly one third are living below the poverty line (Disability Stats and Facts, 2009).
In spite of the efforts of the ADA and various activist groups, discrimination, prejudice, and stereotyping of people with disabilities is still very much present in our society today. Sixty one percent of Americans with disabilities stated that the passage of the ADA had no effect on their life and nearly half of respondents with somewhat severe disabilities reported others reacting negatively to them (2010 Kessler Foundation/NOD Surveys of Americans with Disabilities).

These negative responses toward people with disabilities are a form of ableism. Ableism, in the simplest terms, is prejudice or discrimination against people who have any form of disability, including mental, developmental, or physical disabilities. However, for the sake of our study, we focused on physical disabilities. People who espouse ableist ideas generally believe that individuals with disabilities cannot function as citizens or that these people need to be fixed in order to become full members of society. With approximately twenty percent of Americans having some form of disability (Smith, Foley, & Chaney, 2008), this classification of disabled persons as “other” or “insufficient” obviously produces a very large number of marginalized people.

Ableism has been investigated through a variety of methods. For example, many scales measure participants’ attitudes toward people with disabilities through self-report (McCaughey & Strohmer, 2005). Self-report data is used in many studies because it is convenient to collect. One approach to collecting self-report data is to ask participants to directly report on their attitudes toward disabled persons in questions such as “Do you prefer abled over disabled individuals?” Other measurement types called “projective measures” are a form of self-report measures as well, but they ask the participant to answer what they think others’ attitudes would be. For example, one study examined the relationship between how people would rate a child with a disability on a variety of traits, such as anxiety, depression, or aggressive behaviors, and
what they believed others would believe about the child. They discovered that participants’ self-ratings were more positive than their other ratings (Castañeto & Willemsen, 2007). In other words, participants may not have been willing to admit to feeling prejudiced toward a child with a disability, but some ableist views were found to be present through their other ratings (Castañeto & Willemsen, 2007). Both self-reports and projective measures are described as measures of people’s explicit attitudes.

Explicit attitudes are a person’s beliefs that are consciously present and that the individual acknowledges possessing (McCaughey and Strohmer, 2005). Explicit attitudes are typically measured through self-report, such as in the types of surveys described above or, sometimes, in interviews (McCaughey and Strohmer, 2005). However, issues arise with these explicit measures due to social desirability bias, or the tendency to report only one’s opinions and attitudes that are considered socially appropriate (McCaughey & Strohmer, 2005). In order to control for this, several methods have been developed that do not call for a self-report, but measure participants’ implicit attitudes of which they may not be aware.

Implicit attitudes are attitudes that are not consciously acknowledged but that are expressed through judgments or actions (Greenwald, McGhee, & Schwartz, 1998). Implicit attitudes are sometimes referred to as “automatic” or “unconscious” stereotypes (Levy & Banaji, 2002). These attitudes seem to be based on societal norms that become incorporated into individuals’ memories and personal judgments (Agerstrom, Bjorklund, & Carlsson, 2011). Because individuals are not necessarily aware of the implicit attitudes they hold it is unlikely that they will alter their results on an implicit measure due to social desirability bias (McCaughey & Strohmer, 2005). This can make implicit attitudes hard to measure though, as participants are not
necessarily able to describe these ideas on an explicit measure. Therefore, many researchers use Implicit Association Tests.

Implicit Association Tests (IATs) are designed to measure the implicit attitudes that may exist on an unconscious level. IATs complete this goal by examining the automatic associations a person holds between a construct and an attribute (Thomas, Smith & Bell, 2007). These measures are based on the assumption that it is easier to behaviorally respond to a strong association than to a weak association. To take a computer-based IAT, a participant is asked to complete a series of several tasks. In the first task, participants are asked to sort stimuli into one of two different categories. For example, a participant might be presented with a computer screen on which “disabled” appears in the top, left-hand corner and “abled” appears in the top, right hand-corner. The participant is asked to sort each image related to ability or disability that appears in the middle of the screen into the appropriate category by hitting either the left-hand (e.g., “e”) or right-hand (e.g., “i”) key. In the second task, participants follow the same procedure, this time sorting attributes into categories. For example, “good” might appear in the top, left-hand corner of the screen and “bad” might appear in the top, right-hand corner. Participants are asked to sort words (e.g., “evil”) into these two categories. In the third task, the categories and attributes from the first two tasks are combined. For example, “Disabled/Good” might appear in the top left-hand corner while “Abled/Bad” might appear in the top right-hand corner. Participants are asked to sort stimuli (e.g., the word “evil”) until the appropriate category (here, “Abled/Bad”). In subsequent tasks, the pairings are repeated and, then reversed (e.g., “abled” might be on the same side as “good” and “disabled” might be on the same side as “bad”). If participants can complete the sorting task more quickly and accurately when “abled” and “good” are paired than when “abled” and “bad” are paired, it suggests that the participant
has an implicit association between “abled” and “good”. This association is often interpreted as a preference; that is, a person with who associates “abled” with “good” and “disabled” with “old” would be said to prefer abled people over disabled people (Nosek, Greenwald, & Banaji, 2008).

It is important to note here that the IAT can be controversial. For example, some have argued that the IAT may indicate attitudes that are more of a reflection of the society in which the individual lives rather than the viewpoints of the individual himself. Others have suggested that links associating ideas such as “disabled” and “bad” may reflect something other than hostility, perhaps anxiety or recognition that disabilities present challenges in modern society. This means that the results of IATs need to be evaluated with caution but it remains a valuable tool.

IATs have been used to examine participants’ attitudes toward disabled individuals in several previous studies. In one such study, experimenters had members of a physical assistant program take a disability IAT. This program, following the guidelines of The Physician Assistant Education Association, had educational programs in place in order to improve cultural competence among their students, including programs addressing disabilities. Following the implementation of this program, however, students still held largely negative implicit attitudes toward people with disabilities. Approximately 34% of students receiving training in the program strongly preferred abled individuals compared to roughly 5% preferring disabled and 5% having little preference. The percentages were very similar to those found among a control group of students who were not provided training, showing that this educational program had little impact on the participants’ implicit attitudes (Archambault, Van Rhee, Marion, & Crandall, 2008). It is surprising that this program created few changes in implicit attitudes toward people with disabilities though since similar programs have been shown to improve people’s explicit attitudes toward people with disabilities. This suggests that implicit attitudes may be more of a
reflection of societal attitudes experienced over time, rather than the reflection of a single occurrence within the subject’s life.

**The Current Study**

To date, relatively little research has examined both explicit and implicit attitudes toward people with disabilities in a single study. Moreover, very little of the existing research has focused on the older population, so it is unknown how attitudes toward disabled individuals may change with age.

The first goal of the current study was, then, to examine both explicit and implicit attitudes toward individuals with disabilities. If explicit attitudes are more positive than implicit attitudes, one interpretation is that positive attitudes toward people with disabilities are not truly being internalized. These results could suggest that efforts continue to be needed to integrate disabled individuals into the community.

The second and primary goal of the current study was to examine whether participants’ age influenced their explicit or implicit attitudes toward disabled individuals. We expected that older individuals would have more negative explicit and implicit attitudes toward individuals with disabilities, largely because of their lack of exposure to people with physical handicaps because they did not grow up in an era when people with disabilities were commonly integrated into society. Additionally, we examined relationships between an individual’s amount of experience with people with disabilities and their explicit and implicit attitudes. It would be especially interesting to see if contact makes a difference in explicit attitudes, implicit attitudes, or both, as it is something that has not been prominently discussed in the literature.

To date, very little research has examined age effects on attitudes toward disabled individuals. What little work that has been done suggests that age may be associated with more
negative attitudes. For example, one study did find that older participants (50 years and older) had significantly more negative views on people with disabilities than did their participants 40 years of age or younger (Goreczny et al., 2011). Similarly, another study found that older adults had more negative implicit attitudes toward Black people than younger adults did (Stewart, von Hippel, & Radvansky, 2009). While this latter study is not directly related to ableism, it does suggest that prejudices among older adults may be stronger and more negative than those of younger adults, although it is unclear why this might be. One possibility is that older adults lack inhibition in expressing such negative prejudices (Stewart, von Hippel, & Radvansky, 2009).

We were also interested in seeing how contact or experience with people with disabilities may moderate the relationship between age and attitudes toward people with disabilities. Although implicit attitudes appear to remain largely unchanged with more knowledge regarding the “othered” group (Levy & Banaji, 2002), many studies have shown that knowledge of people with disabilities may have an effect on explicit attitudes. For example, one study focused specifically on people who either worked with people with disabilities or who had a close friend who had a disability (Goreczny, Bender, Caruso, & Feinstein, 2011). They found that people who did have these experiences with people with disabilities had more positive attitudes toward the disabled overall than did their counterparts (Goreczny et al., 2011). Educational programs have also been shown to improve people’s attitudes toward people with disabilities. For example, Westervelt, Brantley, and Ware (1983) gave elementary school students a pre-test before watching a film about a handicapped child and post-test following it. They found that the film was useful in improving their attitudes toward peers with physical handicaps. Another example of contact being attributed to making a difference in the views of abled individuals was shown in research concerning nursing students (Ten-Klooster, Dannenburg, Taal, Burger, &
Rasker, 2009). In that study nursing students and non-nursing students from otherwise similar demographics were compared in regards to ableism. Nursing students, who came into contact with people with physical handicaps, were significantly more positive towards them than were their non-nursing student peers. This research gives minor examples that personal experiences with people with disabilities and/or educational programs may help improve people’s explicit attitudes toward people with disabilities. It is therefore an important characteristic to take into account.

Based on our review of previous research, we intended to investigate the effects that age has on the perception of people with physical disabilities. The central focus of the present study was to examine the degree to which explicit and implicit attitudes toward the disabled change with age. We predicted that younger adults would report more positive explicit and implicit attitudes toward individuals with physical disabilities than would older adults, in part due the positive effects of legislation, including the Americans with Disabilities Act. We also believed that implicit attitudes toward individuals with physical disabilities would be more negative than explicit attitudes expressed by the same participants because the participants may be influenced by social desirability bias when answering the explicit questions, and therefore may not have presented accurate measures. We suspected that we may also find fewer age-related trends for explicit beliefs than for implicit beliefs. One reason for this is that older adults, like younger adults, may understand that expressing negative attitudes toward people with disabilities may be socially unacceptable. However, this value may not be as fully internalized because they were not raised and socialized in an era when legislation, such as the ADA, protected people with disabilities.
Method

Participants

We gathered our participants using social media websites, including Facebook and Google Plus, and advertised the study on the Hanover Psychology website. One hundred and thirty eight people responded, but we had to drop eleven participants from our study because they failed to complete the study or because they were not at least eighteen years of age, leaving us with 127 participants. Our remaining sample was composed of 64.5% female participants and 34.6% male participants. They ranged in age from 18 to 60, with a median age of 22 years and a mean age of 25.95 years. Although our participants represented a reasonably large age range, we had considerably more younger participants than older participants despite our efforts to recruit older participants, with only 11% of our participants being over the age of 40.

Materials

Participants completed online survey measures (see Appendix A). Participants indicated their responses by choosing their answer from a drop-down menu or clicking on a radio button.

Demographics. Participants were asked to answer six demographic questions. Specifically, participants answered questions about their gender, age, ethnicity, level of education, geographic location, and occupation.

Projective Measure of Explicit Attitudes. Participants completed a projective measure, The Multidimensional Attitudes Scale Toward Persons with Disabilities (MAS), created by Findler, Vilchinsky, and Werner (2007), to assess explicit attitudes toward the disabled. Here, participants were presented with a hypothetical scenario involving an able-bodied individual interacting with a physically handicapped person with whom they were not previously acquainted. Because there were two characters in this scenario, the survey automatically
randomized the gender of each participant, so there were four possible versions of the MAS: male/male, male/female, female/male, and female/female. Participants were asked to indicate the likelihood the able-bodied person in the scenario might experience specific emotions, cognitions, and behaviors on a 1 to 5 Likert scale, with 5 being “very much likely,” and 1 being “not at all likely.” Therefore higher numbers represented more negative attitudes toward people with disabilities. For example, participants were asked to rate the likelihood the individual might feel shame or the likelihood the person would move away. Each of these items held an equal weight in the final evaluation, and some of these measurements were reverse scored in order to prevent a positive confirmation bias. This measure was very reliable with a Cronbach’s alpha of 0.88.

*Experience with Individuals with Disabilities*. Participants were asked to answer how much experience they had had with people with physical disabilities on a 1 to 10 Likert scale, with 1 being no experience and 10 being the most experience.

*Self-Report Measure of Explicit Attitudes*. To assess their explicit attitudes toward disabled individuals, participants were asked to complete a self-report measure. This measure asked them to choose which statement best described them from a drop down menu. The options included “I strongly prefer abled persons to disabled persons,” “I moderately prefer abled persons to disabled persons,” “I slightly prefer abled persons to disabled persons,” “I like abled persons and disabled persons equally,” “I slightly prefer disabled persons to abled persons,” “I moderately prefer disabled persons to abled persons,” and “I strongly prefer disabled persons to abled persons.” These were scored on a numerical system from 0 to 6, such that higher numbers represented more negative attitudes toward individuals with disabilities. This question was taken
from the Project Implicit website and utilizes the same rating system as the IAT, described below.

*Implicit Attitudes.* Participants were directed to the Project Implicit website via the following link: [https://implicit.harvard.edu/implicit/demo/selectatest.html](https://implicit.harvard.edu/implicit/demo/selectatest.html). Participants were asked to complete the Disability IAT found on that website. This IAT required participants to sort symbols and images representing disabled and abled figures, such as signs that indicate handicapped parking spaces, into the categories “disabled” and “abled.” In addition, they were asked to sort words with negative and positive connotations, such as “joy” or “evil,” into the categories “good” and “bad.” As was described previously, the IAT was scored according to how quickly the participant was able to sort these words into categories. In other words, if the participant was able to more quickly and correctly sort disabled images into the “disabled” category when it was paired with “bad” than it was paired with “good,” it indicated a preference toward abled people. Participants received their results automatically upon completing the IAT. These results were phrased and scored in the same way as the options for the self-report explicit measure mentioned above. On the online survey, they were asked to indicate their results from a drop down menu.

*Procedure*

Participants clicked on the link found on Facebook, Google Plus, or the Hanover Psychology website. They were directed to an electronic informed consent form (see Appendix A). After accepting the terms, they completed the survey in the order listed above. After completing the survey, participants were presented with a debriefing form and were able to exit the electronic survey.
Results

In order to better understand our results, we first ran descriptive statistics on each of our measures in order to have the mean and standard deviation of each. This can be seen in Table 1 below.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAS</td>
<td>1.44</td>
<td>0.50</td>
</tr>
<tr>
<td>Self-Report Explicit</td>
<td>3.33</td>
<td>0.84</td>
</tr>
<tr>
<td>IAT</td>
<td>4.24</td>
<td>1.54</td>
</tr>
</tbody>
</table>

Table 1. Table describing the means and standard deviations of each of the measures utilized.

Since higher numbers indicate more negative attitudes, it can be seen that the IAT resulted in the most negative attitudes, while the MAS reported very positive attitudes overall.

We hypothesized that implicit attitudes would be more negative than explicit attitudes toward people with disabilities. To address this question we first correlated the participants’ scores on the implicit associations test and the self-report measure of explicit attitudes. Both measures used the same scale, with a higher number representing more negative attitudes toward the disabled. The correlation was small, but significant, $r = .223$, $p = .012$, indicating that the two measures are different, but related, constructs. To test our hypothesis that implicit attitudes would be more negative than explicit attitudes, we ran a paired samples t-test using participants’ scores on the implicit associations test and the self-report measure of explicit attitudes. The results of this analysis indicated a significant difference on the scores of the two tests, $t(127) = 6.48$, $p < .001$, such that participants’ implicit attitudes ($M=4.24$, $SD=1.54$) were more negative than their explicit attitudes ($M=3.33$, $SD=.84$) (see Figure 1). Together, these results are
consistent with the idea that people are not necessarily aware of--or willing to admit to--the implicit attitudes they possess, so implicit and explicit attitudes do not align exactly.

Figure 1. Bar graph showing comparison of means from Implicit Associations Test (IAT) and self-report measure of explicit attitudes.

Our second hypothesis was that younger adults would report more positive explicit and implicit attitudes toward individuals with physical disabilities than would older adults. We also expected that participants who had more experience with people with disabilities would report more positive attitudes and, perhaps, that experience would moderate the age effect. To test this, we ran three regressions. For all three, the predictor variables were age, experience with people with disabilities, and the interaction of these two variables. Experience and the interaction of age
and experience were not significant predictors of attitudes in any of the analyses, all \( ps > .05 \). The presentation of results focuses, then, on the main effects of age. In the first regression, the outcome variable was participants’ scores on the self-report measure of explicit attitudes toward individuals with disabilities. The main effect of age was significant, \( \beta = .48, t(123) = 1.93, p = .05 \), indicating that older participants had more negative attitudes toward people with disabilities than did younger participants. In the second regression, the outcome variable was the participants’ scores on the Multidimensional Attitudes toward People with Disabilities Scale. The main effect of age was not significant, meaning that age did not affect people’s attitudes on this projective measure. In the final regression, the outcome variable was participants’ scores on the Disability IAT. Although the main effect of age was not significant, a marginally significant trend in the expected direction was found, \( \beta = .43, t(123) = 1.68, p < .10 \). Specifically, older participants had somewhat more negative implicit attitudes toward people with disabilities than did younger participants.

**Discussion**

We hypothesized that implicit attitudes toward individuals with physical disabilities would be more negative than explicit attitudes. This hypothesis was supported, as we found that participants’ implicit attitudes were significantly more negative than were explicit attitudes. These findings indicate that our participants were either not fully aware of their implicit attitudes or were not willing to admit them fully. However, since the implicit and explicit attitudes trended in the same direction, our participants did generally recognize the direction of their implicit attitudes. This could mean that with continued disability awareness, implicit and explicit attitudes will be closer to the same. In addition, we expected that younger adults would report more positive implicit and explicit attitudes toward people with disabilities than would
older adults. We did find that younger adults reported significantly more positive explicit attitudes than did older adults. However, while younger adults did report more positive implicit attitudes than did older adults, this was not a significant difference. The fact that younger participants’ explicit attitudes were more positive than those of older participants suggests that younger adults may better recognize the importance of having positive attitudes toward people with disabilities more than older adults. We expected that implicit attitudes would differ as well because the younger generations have grown up under the ADA and in a time where people who are “different” are more accepted in general. However, while the difference between the implicit attitudes of our younger and older participants was not significant, it was nearly significant, so perhaps with more older participants, one would see a larger difference.

It was particularly surprising that we found no main effect for experience. Previous studies (Goreczny, Bender, Caruso, & Feinstein, 2011; Castañeto & Willemsen, 2007; Westervelt, Brantley, & Ware, 1983) found that people with experience with individuals with disabilities were more likely to have more positive attitudes, specifically explicitly. However, we did not find any main effects for experience in either implicit or explicit attitudes. This may have been because many of our participants did not have much experience with disabilities.

Limitations. We did have some limitations in this study. First we had restriction of range problems we had in regards to age. In spite of our efforts to recruit older participants, our age range was still severely limited. Our oldest participant was 60 years old, with only 11% above the age of 40, and the median age in the 20s. Having more older participants would have increased our potential to discover more significant findings.

Second, our projective measure, the MAS, resulted in a ceiling effect, such that participants responded mostly positively to this measure. This may have been because our
participants did not find this hypothetical situation particularly awkward or shocking or because they would have reacted in a way that was not presented. In any case, perhaps a different projective measure would be more effective in any future studies.

**Future directions.** The results of the current study suggest several directions for future research. For example, because we did not find a main effect for experience with people with disabilities, it would be interesting to examine this construct in other ways. Because previous studies (Castañeto & Willemsen, 2007; Westervelt, Brantley, & Ware, 1983) have shown that educational programs specific to physical disabilities may affect people’s attitudes toward this population, it would be intriguing to incorporate this into a future study. By testing participants’ implicit attitudes before and after such a program, it would help gain insight into whether or not these programs are effective in changing implicit attitudes or just explicit attitudes. Also, because these studies mainly focused on younger generations, it would be interesting to know whether using educational programs with older adults could prove beneficial in shifting the implicit and explicit attitudes of other generations. Additionally, because our study focused on the US and the potential effects of legislation here, a comparative study between the US and other countries that have different legislative views on disabilities might produce interesting results.

Overall, it appears that legislation that mainstreams America’s population with physical handicaps may be at least somewhat effective. A statistically significant difference between older and younger individuals, regardless of contact, shows that older individuals are more likely to hold explicit and implicit ablest ideas, pointing to the possibility of a cultural shift being a determining factor when examining ablest.
Despite there being statistically less ableism amongst America’s young adults, there was still a remarkable number of participants who either implicitly or explicitly expressed ablest opinions. With nearly all of our participants expressing some form of ableism, the need for public addressing of this issue remains high. Discrimination still exists, whether ableism is implicit or explicit. In fact, because implicit attitudes are unconscious, they may be more detrimental, as a subject cannot actively work to prevent discrimination. Through awareness of one’s attitudes, it is easier to actively work against them.

Further research in this area could also support additional expenditure by the federal and state governments on disability integration programs. This would be significant for our culture as a whole for numerous reasons: not only would further legislation improve the lives of Americans with disabilities, but it would also be a cultural indicator about our societal viewpoints as Americans. Laws and legislation are more than simply ways to put things into action. They are indicators of the current values our society holds, as well as its projected values.
Disabilities 20

References


Appendix A

Informed Consent

This research is being conducted by Carrie Burkhardt and Lauron Haney, students in Psychology 462 at Hanover College. The entire study will not take more than an hour. There are no known risks involved in being in this study, beyond those of everyday life. This survey will include demographic questions, a hypothetical situation, and an Implicit Association Test (IAT), which is designed to examine the strength of association between ideas. In this IAT, you will be asked to sort images and words into their categories as quickly as possible. For example, the word “joy” would belong in the category “good” instead of the category “bad.” Following the completion of these questions, you will be debriefed. All materials will remain anonymous; at no time will your name be connected with your responses.

If you have any questions after the study, please contact Carrie Burkhardt at burkhardtc12@hanover.edu or Lauron Haney at haneyl12@hanover.edu. You can also contact our research supervisor, Ellen Altermatt, at altermattel@hanover.edu or the chair of the Hanover College IRB, Bill Altermatt, at altermattw@hanover.edu if you have any questions or concerns.

Participation in this study is voluntary. Refusing to participate or ceasing to participate at any time will involve no penalty.

Please complete the following questions:
1. Gender
2. Age
3. Ethnicity
4. Level of education
5. Country of birth
6. Country of residence

MAS

Imagine the following situation. Michelle went out for lunch with some friends to a coffee shop. Another individual, with whom Michelle is not acquainted, enters the coffee shop in a wheelchair and joins the group. Michelle is introduced to the other person, and shortly thereafter, everyone else leaves, with only Michelle and the person in the wheelchair remaining alone together at the table. Michelle has 15 minutes to wait to be picked up. Try to imagine the situation.

People experience a variety of emotions when they are involved in such a situation. Below is a list of possible emotions, which may arise before, during, and/or after such a situation. Please rate on each line the likelihood that this emotion might arise in Michelle, with 1 being “not at all likely” and 5 being “very much likely.”

1. Tension
2. Stress
3. Helplessness
4. Nervousness
5. Shame
6. Relaxation
7. Serenity
8. Calmness
9. Depression
10. Fear
11. Upset
12. Guilt
13. Shyness
14. Pity
15. Disgust
16. Alertness

People experience a variety of cognitions when they are involved in such a situation. Following is a list of possible thoughts that may arise before, during, and/or after such a situation. Please rate on each line the likelihood that this cognition might arise in Sam.
1. He seems to be an interesting guy
2. He looks like an OK person.
3. We may get along really well.
4. I enjoy meeting new people.
5. He will enjoy getting to know me.
6. I can always talk with him about things that interest both of us.
7. I can make him feel more comfortable.
8. Why not get to know him better?
9. He will appreciate it if I start a conversation

People experience a variety of behaviors when they are involved in such a situation. Following is a list of possible behaviors that may arise before, during, and/or after such a situation. Please rate on each line the likelihood that Sam would behave in the following manner:
1. Move away
2. Get up and leave
3. Read the newspaper or talk on a cell phone
4. Continue what he was doing
5. Find an excuse to leave
6. Move to another table
7. Initiate a conversation if he doesn’t make the first move
8. Start a conversation

Please answer the following questions regarding your personal experience with physical disabilities:
1. Do you currently or have you ever had a physical disability?
2. How would you rate the amount of experience you have with people with physical disabilities? (1 is no experience and 10 is the most experience)

   Yes   No
   1  2  3  4  5  6  7  8  9  10

3. Do you know anyone personally with a physical disability?

   Yes   No
   a. If so, what is their relationship to you? __________________

Please follow this link to an Implicit Associations Test. Upon clicking the link, you will be taken to a site that hosts many different IATs. On this page, please scroll down to find the test called “Disability IAT” and click on it. Follow the directions given to complete the IAT and receive your results, then return to this survey and choose your result from the menu below. Your responses and results of the IAT will be completely anonymous. Also, please note that results of this IAT do not necessarily reflect your behaviors, but are thought to be reflections of learned associations resulting from societal norms.

https://implicit.harvard.edu/implicit/demo/selectatest.html

Please choose your IAT results:
- strongly prefers abled
- moderately prefers abled
- slightly prefers abled
- little preference
- slightly prefers disabled
- moderately prefers disabled
- strongly prefers disabled

Debriefing

The study in which you just participated was designed to measure the effect of age of individuals’ explicit and implicit attitudes. You took one survey (the Multidimensional Attitudes Scale Toward Persons with Disabilities) that measured your explicit attitudes toward people with physical disabilities. In addition, you took an Implicit Association Test to measure your implicit, or unconscious attitudes, toward persons with disabilities. We will investigate whether age influences our participants’ explicit and/or implicit attitudes.
Please do not discuss this study with other potential participants before June 1, 2012. If people know what we are testing before the study begins, they may respond differently, jeopardizing our results.

If you have any questions or comments about this research, please contact Carrie Burkhardt at burkhardtc12@hanover.edu or Lauron Haney at haneyl12@hanover.edu. You may also contact our research supervisor, Dr. Ellen Altermatt, at altermattel@hanover.edu, or the supervisor of the Institutional Review Board, Dr. Bill Altermatt at altermattw@hanover.edu.