

Perceptions of College Students with Disabilities

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Abstract

A large body of research on disability stigma conducted among young school children and adults in non-educational settings shows that individuals with non-visible disabilities experience more negative stigma compared to individuals with visible disabilities. However, there is a noticeable lack of research on disability stigma within higher education. The main purpose of the current research was to study how college students perceive their peers who have a disability and how these perceptions differ depending on the type of disability. Participants completed measures that assessed their perceptions of sociability, academic ability, and academic performance of students who have one of three disability types: physical (visible), cognitive (non-visible), and psychiatric (non-visible). For the given disability type, they also rated their expectations of classroom behaviors, deservingness of academic accommodations, and ability to deal with the disability. The results showed that students with visible disabilities compared to students with non-visible disabilities were perceived as being more sociable and academically capable, but they also were perceived as displaying more disruptive classroom behaviors. Differences between the two types of non-visible disabilities also were observed. Our study reveals a need for further research on perceptions of disability and how these perceptions impact students within higher education.

Keywords: *disability, disability perceptions, higher education, stigma, academic experience*

Stigma: Notes on the Management of Spoiled Identity (Goffman, 1963) suggested that the label of “disabled” may negatively impact one’s identity. As Goffman discussed in his work, any prominent personal characteristic that sets an individual apart from others can lead to the individual being looked upon unfavorably. In other words, possessing a differentiating characteristic may lead to the experience of stigma—when undesirable qualities are attributed to an individual on account of a characteristic he or she possesses. Handicap, Goffman noted, can provide such differentiation and stigma. Goffman explained that stigma experienced by an individual with a disability can be influenced by whether the individual believes others know about his or her condition (i.e., the condition is visible), or whether his or her condition is non-visible to others. Generally speaking, a given disability can have both visible and non-visible characteristics; often times, however, a given disability is characterized by a tendency toward either visibility or non-visibility (D. Akin & UC Davis Student Disability Center, personal communication, 2016; Higher Education and Disability, 2009; Olney & Kim, 2010; O’Shea & Meyer, 2016; Rickerson, Souma, &

Burgstahler, 2004). Physical disabilities tend to be visible—the individual uses a wheelchair, prosthetic, or hearing aid, has movement difficulties, or perhaps has a body part that is abnormally formed or missing (Cahill & Eggleston, 1995; D. Akin & UC Davis SDC, personal communication, 2016; Olney & Kim, 2010; O’Shea & Meyer, 2016; Rickerson et al., 2004). In contrast, psychiatric disabilities and cognitive (i.e., learning) disabilities tend to be non-visible—it may not be immediately apparent that an individual is clinically depressed or has an anxiety disorder, or that an individual struggles with reading due to dyslexia (D. Akin & UC Davis SDC, personal communication, 2016; Higher Education and Disability, 2009; Rickerson et al., 2004; Olney & Kim, 2010; O’Shea & Meyer, 2016; Stone & Colella, 1996). Despite differences in visibility status, it is important to note that both visible and non-visible disabilities can be associated with a variety of stereotypes. For instance, people may think that wheelchair-bound individuals cannot enjoy athletic activities when, in actuality, many wheelchair-bound individuals can enjoy a variety of sports such as wheelchair basketball. Similarly, people may think that people with dyscalculia

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are incapable of successfully completing any sort of math-related tasks when they simply may need a bit of extra time to complete such tasks. Thus, although not always accurate, negative stereotypes about individuals with disabilities still persist—namely, that they are generally needy and incompetent (Narrino-Redmond, 2010).

Visible Disability Stigma

Individuals who have disabilities such as cerebral palsy, blindness, or other disabilities with a visible physical component may encounter a variety of negative reactions toward their disability (Cahill & Eggleston, 1995; Fichten & Amsel, 1986). Reactions range from generally negative behaviors such as avoidance and belittlement, to belittling reactions masked in positivity such as pity and overly-sympathetic behaviors, all of which can impact the self-view of individuals with disability and put a strain on normal social interactions (Allen & Birse, 1991; Cahill & Eggleston, 1995; Green, 2003; Green, Davis, Karshmer, Marsh, & Straight, 2005). An example of an unwelcome and patronizing belief concerning physical disability is that individuals with physical disabilities should be helped and treated especially kindly. Upon encountering an individual with a physical disability, a person may go out of his or her way to provide assistance to the individual even though that individual may not want such assistance (Cahill & Eggleston, 1995). For instance, a person may be overly zealous in opening a door for a wheelchair-bound individual, although the individual with the disability may not need or want such assistance.

Wheelchair users in particular are likely to encounter inconsistent, awkward, and/or difficult social situations due to physical disability stigma. For instance, in contrast to being overly helpful toward wheelchair users, some people may deliberately ignore or try to avoid wheelchair users in public places (Cahill & Eggleston, 1995). These reactions can impact individuals with physical disabilities in various ways during day-to-day activities such as going shopping and eating at restaurants. The designation of “disabled” can deter people from interacting meaningfully or at all with individuals with disability; due to unfamiliarity with disability or hesitation about interactions, people may avoid individuals with physical disabilities altogether (Green, 2003; Green et al., 2005). For example, one study found that participants chose to keep a greater distance from an individual with a physical disability than from an individual without a physical disability (Kleck, 1969).

Interestingly, the perceived severity and per-

manence of a visible disability can affect social interactions (Green et al., 2005). People with temporary limitations (e.g., an injury that requires a cast or crutches) may be treated more like “normal,” non-disabled people, whereas people with more severe, long-term disabilities such as the loss of a limb may be treated in a “different” or “special” way. In some cases, experiencing negative disability stigma for prolonged amounts of time can result in lowered self-esteem, depression, social isolation, and suicidal thoughts. This is particularly concerning, given that an individual with a disability perceived to be severe and long-lasting may experience high amounts of negative stigma over time, which can contribute to lowered self-esteem.

Non-Visible Disability Stigma

Non-visible disabilities include a variety of disabilities that have a psychiatric or cognitive component rather than an obvious physical component. Psychiatric disabilities are frequently marked by emotion-based challenges or other mental challenges, whereas cognitive disabilities are marked by information processing difficulties (“Chapter 5,” n.d.; American Psychiatric Association, 2013). Several studies have found that perceptions of individuals with non-visible disabilities are often negative. For instance, some common perceptions of people with psychiatric disabilities are that they are difficult to talk to, lazy, responsible for their condition, and dangerous (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Wood, Birrel, Alsawy, Pyle, & Morrison, 2014). According to the disability hierarchy, individuals with psychiatric disabilities are generally perceived most negatively by others, preceded by individuals with cognitive disabilities; individuals with physical disabilities are generally perceived least negatively (Belch, 2011; Miller, Chen, Glover-Graf, & Kranz, 2009; Sniatecki, Perry, & Snell, 2015; Thomas, 2000; Tringo, 1970; Wang, Thomas, Chan, & Cheing, 2003).

Similar to physical disability stigma, psychiatric disability stigma also can vary by perceived severity and type of disability (Wood et al., 2014). For example, people with schizophrenia, a mental dissociation disorder, are thought to be more dangerous, unpredictable, and difficult to talk to compared to individuals with depression and anxiety, although individuals with depression and anxiety may be blamed more for their condition than individuals with schizophrenia. In general, people with psychiatric disabilities are portrayed in the media as being dangerous, responsible for their condition, and as people who ought to be feared (Corrigan & Watson, 2002). Such perceptions

can have serious, real-world implications for individuals with psychiatric disabilities (Susman, 1994). For example, people with psychiatric disabilities are commonly referred to by derogatory terms such as “nuts” and “psychos” in popular culture (Wahl, 1995, 2012). Further, one study found that people with psychiatric disabilities are thought to have poor life prospects (Crisp et al., 2000; Hayward & Bright, 1997).

Along the same lines, people also may believe that individuals with psychiatric disabilities should be able to “pull themselves together” or “snap out of” their disability, and that they are responsible for their condition (Crisp et al., 2000; Hayward & Bright, 1997). Additionally, people tend to believe that individuals with non-visible disabilities may attempt to fake their condition (Green et al., 2005). Such judgments can feel painful and embarrassing to people with disabilities.

People with cognitive disabilities also may experience negative disability stigma. For instance, in one study, participants viewed individuals with cognitive disabilities less favorably than they did individuals with physical disabilities; these participants were less accepting of individuals with cognitive disabilities and perceived them as having lower abilities (Werner, 2015). Additionally, participants were insecure and apprehensive of interacting with individuals with cognitive disabilities, and they displayed greater social distance and withdrawal from these individuals compared to individuals with physical disabilities. Other studies have found that people with cognitive disabilities may experience teasing, avoidance, and discrimination on account of their disability, and that classmates may perceive them as having more serious disabilities than they actually have (Siperstein, Norrins, Corbin, & Shriver, 2003; Siperstein, Parker, Bardon, & Widaman, 2007; Werner, Corrigan, Ditchman, & Sokol, 2011). Further, according to a multi-national study, people believe that individuals with cognitive disabilities are less capable of completing complex tasks such as handling an emergency situation (Siperstein et al., 2003).

Disability Stigma in Higher Education

Much of the current research on disability stigma focuses on young school children or adults in non-educational settings, but stigma also may be experienced in a higher education setting. At university, students with disabilities experience a variety of negative social interactions stemming from negative perceptions by faculty and peers (West et al., 1993). Some studies have found that while faculty tend to have overall positive attitudes toward students with disabilities, some believe that these students are fak-

ing their condition and are less academically competent than students without disability (Becker, Martin, Wajeeh, Ward, & Shern, 2002; Belch, 2011; Houck, Asselin, Troutman, & Arrington, 1992; Lyman et al., 2016; Sniatecki et al., 2015). Similarly, students without disabilities may doubt the fairness of academic accommodations for their peers with disabilities (Houck et al., 1992). In turn, students with disabilities may feel they are treated as “dumb,” “lazy,” or “slow” by university faculty, and they often report concerns of being seen as “getting special treatment,” or being fragile or burdensome (Lyman et al., 2016; Stein, 2014).

Negative perceptions of students with disabilities are problematic, considering the number of ways disability stigma may uniquely impact a university student’s experiences while in school and later in life. College students’ perceptions of their peers with disabilities may influence the confidence and self-perceptions of a student with a disability (SWD), which in turn may impact his or her choice of college major, career aspirations, academic performance, and motivation to seek academic help. Perceptions of disability in higher education also may influence the sense of belongingness at university for a SWD, which in turn may impact his or her willingness to engage with and contribute to the university community. Further, research shows that people tend to believe that certain disabilities are controllable (i.e., can be “dealt with”; Crisp et al., 2000; Green et al., 2005; Hayward & Bright, 1997). This may lead to discrepancies in perceived deservingness of university support services for SWDs (Upton & Harper, 2002). Such services, called “academic accommodations,” may include extended time on exams, a notetaker, use of adaptive technology, etc. It is possible that the belief that disabilities are controllable may lead to animosity and resentment toward classmates who receive academic accommodations, which in turn may harm the university environment.

The Current Research

In order to understand the negative effects stigma may have on university students with disabilities, it is important to consider how they are perceived by their non-disabled peers. Although some research has examined faculty members’ perceptions of students with disabilities, there is relatively less research examining perceptions from non-disabled peers. In this study, non-disabled college students’ perceptions of their peers with disabilities within a university setting were examined, specifically, how disability type influences perceptions of social and academic abilities, expectations of academic performance and classroom

behaviors, deservingness of academic accommodations, and ability to deal with disability for SWDs. Feelings of interpersonal warmth toward SWDs were also examined (Bayes, 1972).

Perceptions of SWDs were expected to differ based on visibility status. Visible disability stigma is frequently negative, although it may be masked in a positive but patronizing attitude (Cahill & Eggleston, 1995). In contrast to visible disability stigma, non-visible disability stigma is mostly negative. According to the disability hierarchy, people with non-visible disabilities such as psychiatric and cognitive disabilities generally may be perceived more negatively than people with physical disabilities, possibly due to uncertainty surrounding interactions with these people (Belch, 2011; Miller et al., 2009; Sniatecki et al., 2015; Thomas, 2000; Tringo, 1970; Wang et al., 2003; Werner, 2015). As such, it was expected that students with psychiatric or cognitive disabilities would be perceived more negatively overall than students with physical disabilities.

First, it was hypothesized that students with non-visible (i.e., psychiatric or cognitive) disabilities would be perceived as less sociable and academically capable compared to students with visible (i.e., physical) disabilities. Research shows that individuals with psychiatric disabilities are typically seen as dangerous and unpredictable, and individuals with cognitive disabilities are typically seen as having difficulty interacting with non-disabled peers in group activities such as sports (Crisp et al., 2000; Hayward & Bright, 1997; Siperstein et al., 2003; Siperstein et al., 2007). In addition, students with cognitive disabilities are believed to struggle academically (Siperstein et al., 2007). Second, it was predicted that students with psychiatric and cognitive disabilities would be expected to display more disruptive classroom behaviors and to perform worse on academic tasks because individuals with psychiatric disabilities are typically seen as being unstable, and because individuals with cognitive disabilities are typically seen as being less capable of completing complex tasks (Crisp et al., 2000; Hayward & Bright, 1997; Siperstein et al., 2003).

Next, in line with research by Upton and Harper (2002), it was expected that participants would perceive students with non-visible disabilities as being less deserving of academic accommodations than students with visible disabilities. Non-visible disabilities typically are not evident to the casual observer; individuals with non-visible disabilities can appear to be non-disabled and therefore can be perceived as not needing any academic accommodations. For similar reasons, it was also expected that participants would

think that students with non-visible disabilities would be better able to deal with their disability compared to students with visible disabilities.

It was also expected that participants would feel less warmly toward students with non-visible disabilities than students with visible disabilities because non-visible disabilities are typically not evident to the casual observer. Individuals with non-visible disabilities thus can appear to be non-disabled and therefore might be met with more uncertainty and hesitation from others. It was also expected participants to feel less warmly toward students with non-visible disabilities because people may tend to feel more sympathetic to individuals with visible disabilities (Cahill & Eggleston, 1995).

In addition to perception differences based on visibility status, it was expected participants to perceive students with the two non-visible disabilities (i.e., psychiatric and cognitive) differently because they are associated with different kinds of challenges. Whereas individuals with psychiatric disabilities have emotion regulation challenges, individuals with cognitive disabilities have cognitive processing and learning-related challenges. It was expected that individuals with psychiatric disabilities would be viewed as less sociable than individuals with cognitive disabilities because people typically think that these individuals are less capable of regulating their emotions, and that they should be regarded with apprehension or avoided completely (Corrigan & Watson, 2002; Crisp et al., 2000; Hayward & Bright, 1997; Wahl, 1995, 1999, 2012). Further, it was expected that participants would have higher academic expectations for students with psychiatric disabilities than for students with cognitive disabilities because they may be aware that cognitive disabilities can hinder learning, or they may believe that students with psychiatric disabilities are faking their disability (Green et al., 2005).

Additionally, it was expected that participants would think that students with cognitive disabilities are more deserving of academic accommodations than students with psychiatric disabilities because they may assume that learning-based challenges pose more of a hurdle to academics than emotion-based challenges, although in actuality both can hinder academic success without proper support in place. For instance, depression—a psychiatric disability—is known to impact academic performance (DeRoma, Leach, & Leverett, 2009). We also expected that participants would think that students with psychiatric disabilities should be able to “deal with” their condition more so than students with physical disabilities or cognitive disabilities because people tend to

believe that individuals with psychiatric disabilities should be able to respond to an emotionally stressful situation in a typical, socially-acceptable manner (Crisp et al., 2000; Hayward & Bright, 1997).

Method

A total of 149 undergraduate students at the University of California, Davis participated in the study. Participants were randomly assigned to one of three disability type conditions: psychiatric, cognitive, or physical disability. They responded to questions pertaining to the assigned disability type.

Participants were given a brief description of their assigned disability type and examples of disabilities that fall under that disability type. The examples were selected based on a pilot study that assessed participants' familiarity with different disabilities. Disabilities that participants recognized and correctly categorized by disability type were included in the disability descriptions of the present study. The descriptions appeared at the top of each page of the study for reference. Psychiatric disabilities were defined as disabilities that affect an individual's mood and thought patterns. Examples were anxiety disorders, bipolar disorder, depression, obsessive compulsive disorder, or other related disorders. Cognitive disabilities were defined as disabilities that affect an individual's ability to learn. Examples were attention deficit-hyperactivity disorder (ADHD), dyslexia (a learning disorder characterized by difficulty processing written information), or other information processing disorders. Physical disabilities were defined as disabilities that relate to physical impairments. Examples were cerebral palsy (a brain-based movement disorder) and mobility disorders, or other disorders that may necessitate the use of a clearly evident assistive device such as a wheelchair, prosthetic, etc.

Participants rated the sociability and academic ability of students with the given disability type, their expectations of these students' academic performance and classroom behaviors, their beliefs regarding the deservingness of academic accommodations for students with disabilities, their beliefs about these students' ability to deal with their disability, and the warmth they felt toward SWDs as measured by a feeling thermometer. Perceptions of sociability and academic ability were measured by ratings on a five-point scale, with one indicating "not at all" and five indicating "a great deal." Sociability was measured with four traits including sociable, isolated from others, friendly, and socially awkward, which were combined to form a single index of sociability ($\alpha = 0.63$). Academic ability was measured by ratings on

seven traits including achievement-oriented, motivated, smart, hard-working, academically-challenged, nerdy, and organized. The items were combined to form a single index of academic ability. However, the "nerdy" item was removed from the scale due to low reliability, leaving a total of six items ($\alpha = 0.73$).

Expectations of academic performance were measured with five items, including expectations of performance on exams, homework assignments, and writing assignments such as essays and papers, expected ability to manage class assignment deadlines and due dates, and expected GPA. Ratings were made using a seven-point scale, with one indicating "significantly worse" and seven indicating "significantly better" compared to non-disabled students. The items were combined to form a single index of academic performance expectations ($\alpha = 0.83$).

Expectations of disruptive classroom behaviors were measured with nine items that were combined to form a single index of expectations of classroom behaviors ($\alpha = 0.80$; see Table 1). Ratings were made using a seven-point scale, with one indicating "significantly worse" and seven indicating "significantly better" compared to non-disabled students.

Beliefs about the deservingness of academic accommodations for SWDs were measured with seven items which were combined to form a single index of deservingness of academic accommodations ($\alpha = 0.79$; see Table 2). Ratings were made using a seven-point scale, with one indicating "strongly disagree" and seven indicating "strongly agree." An additional six items assessed participants' beliefs about the deservingness of specific accommodations, including extended time on exams, a notetaker, permission to record lectures, priority class registration, use of the mobility assistance shuttle, and permission to reschedule exams. Ratings were made using a seven-point scale, with one indicating "strongly disagree" and seven indicating "strongly agree." The six items were combined to form a single index of deservingness of specific academic accommodations ($\alpha = 0.83$).

Next, perceptions of SWDs' ability to deal with their disability were measured by a seven-point scale, with one indicating "strongly disagree" and seven indicating "strongly agree." Lastly, warmth felt toward SWDs was measured by a one hundred-point slider scale with zero being "very cold" and one hundred being "very warm."

Results

Thirty-three participants were excluded from analysis: 12 for reporting that they have a disability,

two for reporting that they have used academic accommodations, 12 for not reporting their disability status or use of academic accommodations, seven for incomplete data. Of the remaining 116 participants retained for analysis, the mean age was 20.52 years, $SD = 1.56$. Thirty-one participants were male, and 85 participants were female.

Analytic Plan

A one-way between-subjects ANOVA with planned linear contrasts was conducted to examine the effect of reaction type on each of the dependent measures. Two mean comparisons were tested in the planned contrasts. First, to examine the differences between visible and non-visible disabilities, the physical (i.e., visible) disability condition to the mean of the psychiatric and cognitive (i.e., non-visible) disability conditions were compared. Second, the psychiatric and the cognitive disability conditions—the two non-visible disability conditions—were compared to each other.

Sociability

There was a significant effect of disability type on perceptions of sociability, $F(2, 113) = 5.45, p = .005, \eta^2 = 0.09$. Planned contrasts revealed that ratings of sociability were significantly higher in the physical disability condition (i.e., visible disability; $M = 3.49, SD = 0.74$) than in the psychiatric and cognitive disability conditions (i.e., non-visible disability), $t(113) = 2.82, p = .006$, but they did not differ significantly between the psychiatric disability condition ($M = 2.98, SD = 0.66$) and the cognitive disability condition ($M = 3.26, SD = 0.65$), $t(113) = 1.75, p = .084$.

Academic Ability

There was a significant effect of disability type on perceptions of academic ability, $F(2, 113) = 8.89, p < .001, \eta^2 = 0.14$. Ratings of academic ability were significantly higher in the physical disability condition ($M = 3.79, SD = 0.56$) than in the psychiatric and cognitive disability conditions, $t(113) = 4.14, p < .001$, but they did not differ between the psychiatric disability condition ($M = 3.24, SD = 0.64$) and the cognitive disability condition ($M = 3.36, SD = 0.63$), $t(113) = 0.86, p = .392$.

Expectations of Academic Performance

There was a significant effect of disability type on expectations of academic performance, $F(2, 113) = 3.66, p = .029, \eta^2 = 0.06$. Participants expected better academic performance for students with physical disability ($M = 3.89, SD = 0.60$) than for students with psychiatric and cognitive disabilities, $t(113) =$

$2.70, p = .008$. However, expectations of academic performance did not differ significantly between the psychiatric disability condition ($M = 3.50, SD = 0.57$) and the cognitive disability condition ($M = 3.54, SD = 0.93$), $t(113) = 0.24, p = .812$.

Given that ratings on this measure were made on a scale relative to non-disabled students, participants' expectations of disabled students' academic performance in relation to their expectations of non-disabled students' academic performance were also compared. For each disability type, a one-sample t-test comparing the mean of the group against the value four, the middle value of the scale, which indicated an expectation of academic performance equivalent to that of non-disabled students was conducted. The mean rating in the physical disability condition ($M = 3.89, SD = 0.60$) did not differ significantly from four, $t(40) = -1.15, p = .256$. However, the mean rating in the psychiatric disability condition ($M = 3.50, SD = 0.57$) was significantly lower than four, $t(36) = -5.36, p < .001$, as was the mean rating in the cognitive disability condition ($M = 3.54, SD = 0.93$), $t(37) = -3.06, p = .004$, indicating expectations of poorer academic performance among students with psychiatric and cognitive disabilities relative to non-disabled students.

Expectations of Disruptive Classroom Behaviors

There was a significant effect of disability type on expectations of disruptive classroom behaviors, $F(2, 113) = 5.21, p = .007, \eta^2 = 0.08$. Participants expected more disruptive behaviors from students with physical disability ($M = 4.37, SD = 0.69$) than from students with psychiatric or cognitive disabilities, $t(113) = 3.12, p = .002$. Expectations of disruptive classroom behaviors did not differ significantly between the psychiatric disability condition ($M = 3.86, SD = 0.69$) and the cognitive disability condition ($M = 4.01, SD = 0.79$), $t(113) = 0.86, p = .393$.

Participants' expectations of disabled students' disruptive classroom behaviors in relation to their expectations of non-disabled students' disruptive classroom behaviors were also compared. The mean of each disability type against the value four, the middle value of the scale, which indicated an expectation of disruptive classroom behaviors equivalent to that of non-disabled students was compared. The mean rating in the physical disability condition ($M = 4.37, SD = 0.69$) was significantly higher than four, $t(40) = 3.45, p = .001$, indicating expectations of more disruptive classroom behaviors from students with physical disabilities relative to students with no disabilities. The mean rating in the psychiatric disability condition ($M = 3.86, SD = 0.69$) did not differ significantly from four, $t(36) = -1.22, p = .230$. The mean

rating in the cognitive disability condition ($M = 4.01$; $SD = 0.79$) also did not differ significantly from four, $t(37) = 0.05$, $p = .964$.

Deservingness of Academic Accommodations

Overall, participants believed that SWDs are deserving of academic accommodations (physical disability condition, $M = 5.18$, $SD = 0.97$; psychiatric disability condition, $M = 5.35$, $SD = 0.88$; cognitive disability condition, $M = 5.23$, $SD = 1.10$). Ratings did not differ significantly among the three disability categories, $F(2, 113) = 0.30$, $p = .740$, $\eta^2 = 0.01$.

Deservingness of Specific Accommodations

Overall, participants slightly disagreed that SWDs were deserving of specific academic accommodations (physical disability condition, $M = 3.56$, $SD = 0.72$; psychiatric disability condition, $M = 3.30$, $SD = 0.94$; cognitive disability condition, $M = 3.79$, $SD = 1.11$). There was no significant effect of disability type on deservingness of specific accommodations, $F(2, 113) = 2.53$, $p = .084$, $\eta^2 = 0.04$. Ratings of deservingness for the specific accommodations did not differ significantly between the physical disability condition and the psychiatric and cognitive disability conditions, $t(113) = 0.08$, $p = .935$. However, participants rated students with psychiatric disabilities as less deserving of the specific accommodations than students with cognitive disabilities, $t(113) = 2.04$, $p = .045$.

Ability to Deal with Disability

There was no significant effect of disability type on ratings of disabled students' ability to deal with their disability, $F(2, 113) = 2.44$, $p = .092$, $\eta^2 = 0.04$. Ratings did not differ significantly between visible ($M = 5.83$, $SD = 1.30$) and non-visible disability conditions, $t(113) = 0.93$, $p = .356$, but they were higher in the psychiatric disability condition ($M = 6.35$, $SD = 1.09$) than in the cognitive disability condition ($M = 5.76$, $SD = 1.38$), $t(113) = 2.01$, $p = .047$.

Feelings of Warmth

Overall, participants reported feeling warmly toward SWDs (physical disability condition, $M = 82.27$, $SD = 15.38$; psychiatric disability condition, $M = 76.57$, $SD = 16.99$; cognitive disability condition, $M = 80.00$, $SD = 19.51$). However, there were no significant differences in ratings among the three groups, $F(2, 112) = 1.06$, $p = .349$, $\eta^2 = 0.02$.

Discussion

This study examined how university students' perceptions of SWDs differ based on disability type. It explored how perceptions of students with visible (i.e. physical) disabilities differ from perceptions of students with non-visible (i.e., psychiatric and cognitive) disabilities. In addition, whether perceptions of students with psychiatric disabilities differ from those of students with cognitive disabilities, given the differing nature of the two non-visible disability types was examined.

Participants perceived students with visible disabilities compared to students with non-visible disabilities as being more sociable, having better academic ability, and performing better academically, but they also perceived them as displaying more disruptive classroom behaviors compared to students with non-visible disability. In addition, students with visible disabilities would be rated as being more deserving of academic accommodations and less capable of dealing with their condition relative to students with non-visible disabilities (Upton & Harper, 2002) had been predicted. However, participants perceived students with the two types of disabilities as being equally deserving of accommodations and being equally capable of dealing with their condition was found. Furthermore, although it had predicted that participants would feel warmer toward students with visible compared to non-visible disabilities, participants felt equally warm toward students with both types of disabilities. This finding contradicts the disability hierarchy, which suggests that individuals with physical disabilities are stigmatized less than individuals with psychiatric or cognitive disabilities (Belch, 2011; Miller et al., 2009; Sniatecki et al., 2015; Thomas, 2000; Tringo, 1970; Wang et al., 2003; Werner, 2015).

It was originally predicted that students with psychiatric disabilities would be viewed as less sociable yet more academically capable than students with cognitive disabilities. However, participants perceived students with these two types of disabilities to be equally sociable and academically capable. They also and felt equally warm toward them and perceived them to be equally deserving of academic accommodations. However, participants thought that students with psychiatric disabilities should be better able to deal with their condition and that they are less deserving of the specific accommodations listed in the experiment such as having extended time on exams or a notetaker for class. Participants thought that students with the two non-visible disability types were equally deserving of academic accommodations in general, but that they were not equally deserving of

the specific accommodations. It is unclear why this discrepancy exists, but it could possibly be due to the specific accommodations provided in the measure. Perhaps participants thought that students with psychiatric disabilities deserve academic accommodations as much as students with cognitive disabilities, but the specific kinds of academic accommodations they deserve were not provided in our measure.

The Effects of Disability Type on Perceptions of Students with Disabilities

In the study, participants viewed students with visible disabilities compared to students with non-visible disabilities as more sociable and academically capable, and as performing better on academic tasks. One explanation for this finding may be that people are overly sympathetic toward individuals with physical disabilities (Cahill & Eggleston, 1995), and, as such, rated them more positively on social and academic dimensions. Another explanation may be that people generally tend to view individuals with non-visible disabilities—particularly those with psychiatric disabilities—negatively in general (Corrigan & Watson, 2002; Crisp et al., 2000; Hayward & Bright, 1997; Wood et al., 2014). However, participants reported feeling equally warm toward students with visible and non-visible disabilities, so they seem to view their abilities differently, even though they feel the same toward both groups.

Interestingly, participants thought that students with psychiatric disabilities should be better able to deal with their condition compared to students with cognitive disabilities and that they are less deserving of the specific accommodations listed in the study. In line with previous research, these findings indicate that people may believe that students with psychiatric disabilities have some amount of control over their condition or are otherwise somehow responsible for the impact of their disability (Corrigan & Watson, 2002; Crisp et al., 2000; Hayward & Bright, 1997; Upton & Harper, 2002). Because participants thought that students with psychiatric disabilities are better able to deal with their condition, they also may assume that these students' disabilities are controllable and somehow illegitimate. Consequently, participants also might have thought that students with psychiatric disabilities are less deserving of academic accommodations, or that academic accommodations give certain students an unfair advantage. These perceptions could lead students with psychiatric disability to avoid seeking help for their condition due to embarrassment and fear of the response from others upon disclosure of the disability; particularly, these students may avoid seeking help in order to avoid

being perceived as being lazy and undeserving of academic support services (Belch, 2011; Rickerson et al., 2004; Stein, 2014). However, students with psychiatric disabilities were rated as less deserving only on the measure of specific accommodations, so it is possible that the observed difference could be attributed to the idiosyncratic features of the specific accommodations chosen for the study. More research is needed to determine whether deservingness of accommodations differs depending on the types of accommodations provided as well as disability type.

Implications for Academic Performance

It is important to better understand perceptions of SWDs because these perceptions form the basis for disability stereotypes which in turn can undermine academic performance. Some common disability stereotypes, for example, are that individuals with disability are more dependent, incompetent, unstable, vulnerable, emotionally unstable, and less outgoing and intelligent than non-disabled individuals (Crisp et al., 2000; Hayward & Bright, 1997; Kelly, Sedlacek, & Scales, 1994; Nario-Redman, 2010; Siperstein et al., 2003; Weinberg, 1976; Wood et al., 2014). Although faculty generally tend to have positive attitudes toward students with disabilities, some have less positive attitudes and doubts about the ability of students with disabilities to succeed at university. (Belch, 2011; Houck et al., 1992; Lyman et al., 2016; Sniatecki et al., 2015). Somewhat similarly, peers without disability may be doubtful of the legitimacy and fairness of academic accommodations for students with disability (Houck et al., 1992). Research by Lyman et al. (2016) showed that SWDs are in fact likely aware of these negative attitudes; they may question the legitimacy of their own disability and accommodations use, and fear being seen by peers as receiving unfairly-advantageous treatment. If SWDs are aware of the negative stereotypes their peers and instructors may have of SWDs, they may experience stereotype threat. Stereotype threat is the fear of confirming a negative stereotype about a group to which one belongs. This fear of confirming the negative stereotype can hinder achievement and lead to under-performance in the domain in which the group is stereotyped to perform poorly (Steele & Aronson, 1995). For instance, girls may perform worse than boys on a math task simply because they are aware of the stereotype that boys are better than girls at math (Niederle & Vesterlund, 2010). Similarly, if students with cognitive disabilities are aware of the stereotype that people with cognitive disabilities are less intelligent, they might consequently perform more poorly on exams or avoid academic leadership opportunities

such as heading a class group project for fear of potentially confirming the stereotype (Siperstein et al., 2003). In the present study, participants believed that students with physical disabilities are more disruptive in class than non-disabled students. If students with physical disabilities are aware of this belief, they may be less likely to ask questions in class for fear of appearing disruptive. The effects of stereotype threat also may extend beyond the classroom. If individuals with disabilities worry about confirming a negative stereotype, they may feel less self-integrity, experience more life stress, and participate less frequently in challenge-seeking activities (Silverman & Cohen, 2014).

Although non-visible disabilities are typically not evident to others, stereotyping may still occur. For instance, per university policy, a student wishing to use academic accommodations typically has to inform his or her professors of his or her disability status. This information is often relayed to class teaching assistants, tutors, and exam proctors, who may be students themselves. Thus, although a given student's disability may not be evident to others, the student may still experience disability-related stereotype threat. However, since visual disabilities are more evident than non-visible disabilities it is possible that teachers and non-disabled peers may more readily stereotype students with visible disabilities than students with non-visible disabilities.

Stereotypes also have important implications for interpersonal interactions with teachers and peers. For example, the self-fulfilling prophecy is the process by which a person's expectations about another individual elicit behaviors which confirm the original expectations (Merton, 1948). This process can play into social interactions with disabled students in a potentially detrimental way. For instance, if a teacher thinks that SWDs are less academically capable than non-disabled students, the teacher may be less attentive to those students. As a result, SWDs may become less capable because they are given fewer opportunities to improve—not necessarily because of the disability itself. Indeed, research by Rosenthal and Lenore (1968) showed that teachers' academic expectations of their students are positively related to students' success later in the academic term. If others expect that students with cognitive or psychiatric disabilities perform worse academically than non-disabled students, this expectation could adversely affect interactions between university students. As with instructor-student interactions, if non-disabled students believe that peers with psychiatric or cognitive disabilities perform worse academically than non-disabled students, this could lead them to interact

with these SWDs in a way that confirms their lower academic expectations of SWDs—potentially resulting in the SWDs achieving less academically.

Limitations

One limitation of this study is that participants' perceptions of non-disabled students was not directly assessed (the exceptions were the measures that assessed expectations of academic performance and classroom behavior for which ratings were based on relative differences to non-disabled students). Although the perceptions of different types of disabilities relative to each other were compared, we were not able to gauge how these perceptions compare to those of non-disabled students on most measures. In future studies, it will be important to test how perceptions of disabled students specifically compare to those of non-disabled students, as doing so will help us better understand perceptions of disabled students relative to non-disabled students. This can provide clues about disabled and non-disabled peer interactions, which can offer insight into disabled students' higher education experiences in general. Another limitation is that the participant sample was collected at a single university, but perceptions of students with disabilities may differ across universities which vary based on geographic region, campus culture, and many other factors. The current study should be conducted in different settings in order to determine whether the results replicate with different samples of students.

Conclusion

This study examined how non-disabled university students' perceptions of students with disabilities differ based on visibility status. Results indicated that visibility status affects perceptions of disabled students' sociability, academic ability, and academic performance. Furthermore, non-disabled students' perceptions of the deservingness of academic accommodations and the ability to deal with the disability differed based on disability type. Perhaps most importantly, this study reveals a need for further research on perceptions of disability and how these perceptions impact students within higher education. For instance, it is important to study how university instructors and staff perceive students with disabilities, how students with disabilities perceive themselves, and how perceptions of students with disabilities shape real-world social interactions. Such information will likely help create a foundation for a more diverse and inclusive educational environment.

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Table 1

Items Included in the Measure of Expectations of Disruptive Classroom Behaviors

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1. Cheating on an exam
 2. Asking too many questions in class
 3. Slowing down lectures with questions and/or comment
 4. Making distracting movements (e.g., finger tapping, foot jiggling, rocking back and forth, etc.)
 5. Failing to take turns in class discussions
 6. Being difficult to get along with in class
 7. Displaying obsessive compulsive behaviors
 8. Disrupting class with loud noises
 9. Becoming frustrated easily in class
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Table 2

Items Included in the Measure of Beliefs About the Deservingness of Academic Accommodations, With the Psychiatric Disability Condition Used as an Example

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1. Students with psychiatric disabilities deserve to receive academic accommodations
 2. Academic accommodations 'level the playing field' between students with psychiatric disabilities and students who don't have disabilities
 3. Academic accommodations give students with psychiatric disabilities an unfair advantage
 4. It is fair for students with psychiatric disabilities to receive academic accommodations
 5. Without academic accommodations, it would be difficult for students with psychiatric disabilities to deal with their disability in a typical school day
 6. Students with psychiatric disabilities don't need academic accommodations to perform as well on exams as students without disabilities
 7. Students with psychiatric disabilities may fake their condition in order to receive accommodations
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