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Professionals' Implicit Attitudes About the Competence of People who are Blind

Michele C. McDonnall, Ph.D., CRC

Jennifer L. Cmar, Ph.D., COMS

Karla Antonelli, Ph.D.

Kasey M. Markoski, M.A.

The National Research & Training Center on Blindness & Low Vision

Mississippi State University

Author Note:

Correspondence about this article should be directed to Michele McDonnall, The National Research & Training Center on Blindness & Low Vision, P.O. Box 6189, Mississippi State, MS 39762, 662-325-2001, or m.mcdonnall@msstate.edu.

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Abstract

Introduction: The purpose of this study was to measure blindness professionals' implicit attitudes about the competence of people who are blind, compare implicit attitudes of blindness professionals with those of employers in hiring positions, and examine blindness professionals' implicit attitudes by type of profession and work tenure.

Methods: The study included 322 blindness professionals and 450 employers. Participants completed a brief online survey and the IAT-BVI (Implicit Association Test – Blind/Visually Impaired), which measures implicit attitudes regarding the competence of people who are blind.

Results: On average, blindness professionals exhibited a slight association, whereas employers exhibited a strong association, for sighted with competence and blind with incompetence.

Blindness professionals and employers had large, statistically significant differences in implicit attitudes. Blindness professionals' implicit attitudes did not differ by type of profession, but they differed slightly by work tenure.

Discussion: Employers' strong implicit bias towards sighted and competence may reflect their limited knowledge about blindness and lack of opportunities to interact with people who are blind. Compared to employers, blindness professionals exhibited a much smaller implicit bias, which may relate to their knowledge about blindness, exposure to successful people who are blind, and meaningful interactions with people who are blind across social contexts.

Implications for practitioners: Blindness professionals may benefit from increased exposure to highly successful blind role models throughout their professional preparation programs and their careers. Blindness professionals can promote positive attitudes about blindness to the general public, and to consumers and their families. During educational opportunities, they could

incorporate information about how people who are blind perform work tasks, which has the potential to improve attitudes about the competence of people who are blind.

Professionals' Implicit Attitudes About the Competence of People who are Blind

Although historical attitudes towards blindness have included both positive and negative stereotypes, negative views have generally prevailed, including the belief that blindness equates to uselessness and dependence (Koestler, 2004; Monbeck, 1975). There has long been a social stigma associated with blindness, with reactions of pity, sympathy, and fear being common among sighted people towards blindness (Monbeck, 1975). Federal legislation from the 1930s that set aside jobs for people who are blind (i.e., Randolph-Sheppard Act and Wagner-O'Day Act) exemplifies a historical belief that people who are blind could not compete for employment against those who are sighted.

Research Regarding Attitudes About Blindness

There is a long history of measuring attitudes towards people with disabilities, which began in the late 1950s (Antonak & Livneh, 1988). Research regarding attitudes about blindness also began in the 1950s (e.g., Cowen, Underberg & Verrillo, 1958) and continues today (Papadaki & Tzvetkova-Arsova, 2013; Rowland & Bell, 2012). Several literature reviews about attitudes towards blindness and people who are blind have also been conducted (e.g., Allen & Bellstedt, 1996; Kemp, 1981). Allen and Bellstedt (1996) concluded that attitudes towards blindness perpetuate negative stereotypes that depict those who are blind as incompetent and dependent, obscuring their potential. One recent study, conducted in Greece, documented that most people do not hold four basic negative beliefs about blindness (e.g., blindness can be connected to punishment and most blind people are beggars), but some do believe, or are unsure about, blind people being helpless and fully dependent on others (only 62.6% answered no to this question; Papadaki & Tzvetkova-Arsova, 2013). Another recent study documented more positive attitudes towards blindness based on greater levels of exposure to someone who is blind

(Rowland & Bell, 2012), which contradicts earlier findings (e.g., Cowen et al., 1958; Kuhn, 1971).

Even today, there is an indication that blindness is feared, as it is considered by most to be the worst condition that could be acquired (Scott, Bressler, Folkes, Wittenborn, & Jorkasky, 2016). Concerns associated with losing vision are reduced quality of life and loss of independence (Scott et al., 2016). This recent research with a nationally representative sample of adults supports that historical attitudes about blindness still exist today, particularly the association between blindness and dependence.

Impact of Negative Societal Attitudes

One potential impact of negative societal attitudes towards people who are blind is on their ability to obtain employment (Koestler, 2004; Moore & Wolfe, 2010). Consumers and vocational rehabilitation (VR) professionals believe employers' negative attitudes are a major barrier to employment for people who are blind (e.g., Crudden, McBroom, Skinner, & Moore, 1998; Kirchner, Johnson, & Harkins, 1997; McDonnall, Zhou, & Crudden, 2013). Employers' negative attitudes are believed to be associated with their beliefs that people who are blind would have more difficulty performing job duties than those with other disabilities (Chen, Blankenship, Austin, Cantu, & Kotbungkair, 2016; Gilbride, Stensrud, Ehlers, Evans, & Peterson, 2000; Inglis, 2006).

Because all members of society tend to hold negative attitudes about blindness, considering the attitudes of professionals who work with people who are blind is important. Professionals' attitudes could potentially influence their blind consumers' attitudes and can affect how professionals work with consumers, such as expectation level and amount of assistance provided (e.g., low expectations and more assistance provided because of views of

blind people as dependent; Allen & Bellstedt, 1996). Professionals' attitudes may also influence consumers' response to treatment and outcomes (Chubon, 1982).

Professionals' Attitudes Toward People with Disabilities and Blindness

Although little research has been conducted regarding professionals' attitudes about blindness, a body of research exists regarding rehabilitation and health professionals' attitudes towards people with disabilities. By the early 1980s, a significant amount of research had been conducted in this area due to concerns about negative attitudes (Chubon, 1982). In a review of 60 studies, Chubon (1982) concluded that attitudes may vary by disability type and an association may exist between rehabilitation workers' attitudes and consumers' outcomes. Two studies indicated that health care professionals believe blindness is the most challenging disability: it was the least preferred disability by physicians, psychologists, social workers, and nurses (Janicki, 1970), and the one that rehabilitation and nursing students thought would be the most difficult to deal with personally (Muhlenkamp, 1971). More recently, researchers found negative attitudes towards people with disabilities by health care professionals or professionals-in-training (Lyons, 1991; Martin, Rowell, Reid, Marks, & Reddihough, 2005), but some studies had mixed findings (Tervo, Azuma, Palmer, & Redinius, 2002; Tervo, Palmer, & Redinius, 2004) or findings of positive attitudes (Benham, 1988; Paris, 1993). These studies generally indicated that professionals who had more exposure to people with disabilities had more positive attitudes.

In terms of attitudes of professionals who work with people who are blind towards this population, findings are very limited. According to a study of *perceived* public attitudes about blindness, professionals in the blindness field believed the general population held more negative attitudes than the general population sample's self-report indicated (Peck & Uslan, 1980). Only one study was identified in which researchers directly measured attitudes of blindness

professionals; the researchers also used the same instrument to measure attitudes of people who are blind and the general population (Courington, Lambert, Becker, Ludlow, & Wright, 1983). Results indicated that (a) blindness professionals rejected negative and positive stereotypes about blindness, indicating a balanced, realistic view of blindness; (b) people who were blind tended to agree with both the negative and positive stereotypes; and (c) the general population believed the typical stereotypes about blindness, particularly the negative and somewhat the positive. Despite this encouraging finding about professionals' attitudes, another study documented that 36% of VR consumers who are blind believed that their VR counselor's (or other placement staff's) attitudes or skills were a barrier to obtaining employment (Crudden et al., 1998), which raises a concern about how consumers perceive VR professionals' attitudes.

Recent studies of rehabilitation counselor or counselor-in-training attitudes towards people with disabilities are less common. Two studies documented that disability type was associated with attitude formation among rehabilitation counseling students (Rosenthal, Chan, & Livneh, 2006; Wong, Chan, Cardoso, Lam, & Miller, 2004), but did not evaluate overall attitudes towards people with disabilities. Garske (2002) directly measured rehabilitation counselors' attitudes and found that their self-reported attitudes were positive. Another study of rehabilitation counseling students included both an explicit (i.e., self-report) and implicit (or unconscious) measure of attitudes towards people with disabilities; although explicit attitudes were very positive, implicit attitudes indicated a clear preference for people without disabilities over people with disabilities (Pruett & Chan, 2006).

Importance of Measuring Implicit Attitudes

When evaluating attitudes, including an implicit attitude measure is important, particularly when socially desirable responding may influence self-reported attitudes. Despite

persisting negative societal attitudes about blindness, research participants rated blind people (as a group) the lowest in terms of normative acceptability of prejudice towards them (Crandall, Eshleman, & O'Brien, 2002; Graziano, Bruce, Sheese, & Tobin, 2007). This finding indicates that saying something negative about people who are blind is not socially acceptable, which would be particularly true for professionals working with people who are blind.

The Implicit Association Test

The Implicit Association Test (IAT), the most common method to measure implicit attitudes, measures the implicit bias or preference that a person holds about a group or concept by measuring the strength of associations between concepts and evaluations (Greenwald & Banaji, 1995). The IAT uses a measure of response time to presented stimuli, and is thought to indicate the automatic associations a person holds in memory about a group or concept as it relates to a particular attribute. For example, an IAT might include words related to science and art careers, and images of men and women. When each stimulus appears on the computer screen, the respondent sorts it into one category or another, by pressing a computer key (pressing "i" for images of men, and "e" for images of women). Words related to science vs. art career attributes would each also be assigned to one of those two keys. The more quickly and accurately a person sorts two stimuli categories to the same response key (Men/Science) as compared to the opposite pairing (Women/Science) is taken as an indication of how much bias a person has toward one or the other (e.g., associating men with science careers more strongly than women).

IATs are widely used and have been developed to measure bias for many different concept/attribute pairings by the original creators of the measure (Greenwald, McGhee, Schwartz, & Jordan, 1998) and many other researchers, including for many disability types (Wilson & Scior, 2014). Project Implicit, the nonprofit research and consulting organization

founded by the IAT developers, hosts an online Disability Attitude IAT (DA-IAT) that is specific to physical disabilities and includes images associated with mobility and visual impairments. Project Implicit researchers published summarized DA-IAT data collected from the website's visitors over approximately six years. Of the 38,544 people who took the DA-IAT, 76% showed a bias toward *abled* and against *disabled* persons (Nosek et al., 2007). Several other researchers who have used the DA-IAT reported attitude results for specific populations, including nurse educators (Aaberg, 2012), healthcare clinician students and faculty (Archambault, Van Rhee, Marion, & Crandall, 2008), and rehabilitation counseling students (with a paper and pencil version; Pruett & Chan, 2006). Results of these studies indicated that respondents held moderate to strong bias against people with disabilities.

Purpose of Study

The primary purpose of this study was to measure the implicit attitudes about the competence of people who are blind of professionals who work with this population (defined as people who work with individuals who are blind for their job). These professionals included people in professions that typically serve this population (e.g., orientation and mobility [O&M] instructor and vision rehabilitation therapist) and other professions. The term "blindness professionals" will be used henceforth to describe this group. A secondary purpose was to compare blindness professionals' implicit attitudes about the competence of people who are blind to those of employers in hiring positions, and to compare implicit attitudes of blindness professionals based on type of profession and length of time in the field. The following research questions were investigated:

1. What are blindness professionals' implicit attitudes about the competence of people who are blind?

2. Do blindness professionals' and employers' implicit attitudes about the competence of people who are blind differ?
3. Do blindness professionals' implicit attitudes about the competence of people who are blind differ based on type of profession or length of time working with the population?

Method

Participants

Participants provided informed consent before beginning the study. More than 460 blindness professionals volunteered to participate, but only 322 participants completed the IAT and received a valid score. Most of the blindness professional participants were female (84.2%). They ranged in age from 18 to 34 (18.6%), 35 to 44 (23.0%), 45 to 54 (23.9%), 55 to 64 (28.3%), 65 to 74 (6.0%), and 75 or older (0.3%). Participants' professions included VR counselor (18.0%), O&M instructor (18.9%), vision rehabilitation therapist (13.7%), teacher of students with visual impairments (11.2%), administrator or supervisor (7.5%), and multiple professions (7.8%). Approximately 23.0% of the participants' professions did not fit into these categories and were classified as "other." Examples of positions held by those in the other category were occupational therapist, social worker, assistive technology trainer, certified low vision therapist, and dog guide instructor. The blindness professionals ranged in years worked with individuals who are blind from less than one year to 3 years (18.0%), 4 to 6 years (15.2%), 7 to 9 years (12.7%), 10 to 13 years (12.7%), 14 to 16 years (8.7%), 17 to 19 years (7.5%), and 20 years or more (25.2%).

The majority of the 450 participants in the employer sample were male (58.0%). Their ages ranged from 18 to 34 (6.0%), 35 to 44 (10.7%), 45 to 55 (24.7%), 55 to 64 (40.0%), 65 to 74 (17.3%), and 75 or older (1.3%). A majority of the participants held a 4-year college degree

(36.9%) or a graduate-level degree (44.9%). The employers' positions were manager/supervisor (54.2%), director/chief executive (25.3%), owner (12.0%), other (4.9%), or human resources personnel (3.6%). The employers worked for companies that ranged in size from 1 to 49 (21.5%), 50 to 99 (15.3%), 100 to 499 (16.2%), 500 to 999 (17.1%), 1,000 to 2,499 (12.4%), and 2,500 or more (17.3%).

Procedure

Mississippi State University's institutional review board provided exempt approval of this study. Blindness professionals received an invitation to participate via email, social media, or electronic discussion groups. The invitation included information about the study and a link to the survey. At the beginning of the survey, potential participants were asked if they worked with consumers who are blind or visually impaired. Those who answered "no" received a disqualification message, and those who answered "yes" responded to additional demographic questions before being directed to the IAT-BVI.

For the employer sample, Research Now (an online market research company) emailed managers and administrators who were members of their business-to-business panel to inform them about the opportunity to participate in the study. The email had a link to Research Now's website, which included information about the study and a link to the survey. At the beginning of the survey, potential participants were asked if they were involved in making hiring decisions for their company. Those who answered "no" received a disqualification message, and those who answered "yes" responded to additional survey questions before being directed to the IAT-BVI.

After completing the survey questions, qualified participants from both groups were directed to the IAT-BVI instruction page on Project Implicit's website. Participants received instructions, completed the IAT, and then had an opportunity to view the interpretation of their

results. Completion of the survey and IAT took less than 15 minutes. Blindness professionals who completed the IAT had the option of providing their contact information to request a copy of the study results and be entered into a drawing for a \$100 gift card. To maintain anonymity of participants' data, contact information was collected in a separate survey that could not be connected to their study data.

Measures

IAT-BVI. The IAT-BVI was created to measure implicit attitudes about the competence of people who are blind. The IAT-BVI includes the categories *blind* and *sighted*, represented by four images each of blind and sighted individuals in walking or standing positions. The associated attributes *positive* and *negative* were represented by four positive and four negative words related to competence (e.g., productive, inefficient). Words and pictures selected for the measure were those rated as being most representative of the respective categories by a convenience sample of 54 people. Project Implicit provided assistance with test design, programmed and hosted the IAT-BVI on their website, and provided a calculated *D* score for each participant. The revised scoring algorithm was utilized to calculate the *D* scores (Greenwald, Nosek, & Banaji, 2003), which can range from -2 to 2. Positive values indicate a bias for blind/negative and sighted/positive, while negative values indicate a bias for blind/positive and sighted/negative. The IAT-BVI's internal consistency was $r = .79$ for the combined sample and $r = .76$ for the blindness professionals alone. See McDonnall and Antonelli (in press) for detailed information about the IAT-BVI's development, design, and validation.

Type of profession. Blindness professionals selected their profession from a list of four options (VR counselor, O&M instructor, vision rehabilitation therapist, and teacher of students

with visual impairments) or selected “other” and specified their profession. Many people selected other and specified their profession, some of which were grouped into another category (“administrator or supervisor” and “multiple professions,” which included people who worked in more than one role, such as O&M instructor *and* teacher of students with visual impairments). Respondents who could not be classified into these six professions remained in the “other” category.

Work tenure. For blindness professionals, length of time working with people who are blind was divided into three categories of approximately equal size: Less than 7 years (short tenure), 7 to 16 years (moderate tenure), and 17 or more years (long tenure).

Data Analysis

Data were analyzed using descriptive statistics (means, standard deviations, ranges, and frequencies) to report sample characteristics and *D* score results by group. One-way between-groups ANOVAs were utilized to determine whether group differences existed for blindness professionals and employers and for subgroups of blindness professionals, based on profession type and work tenure. Eta-squared was employed as an effect size measure and is reported with each *F*-test. SAS Version 9.4 was utilized for all analyses.

Results

To determine blindness professionals' implicit attitudes about the competence of people who are blind, their mean *D* score on the IAT-BVI was calculated, $M = 0.30$ ($SD = 0.49$). Scores ranged from -1.10 to 1.31. The overall mean indicates, that as a group, the blindness professionals exhibited a slight automatic association for sighted with positive (competence) and blind with negative (incompetence). More than one-third of the sample (34.5%) had a *D* score below 0.15, indicating either no association between vision status and competence or an

association between blind and competence. Another 17.4% of the sample had a *D* score between 0.15 and 0.3499, indicating a slight association between sighted and competence. *D* scores for the remaining sample indicated a moderate association (23.3%; score between 0.35 and 0.6499) or strong association (24.8%, score equal to or greater than 0.65) between sighted and competence.

One-way between-groups ANOVA results demonstrated a large, significant difference between blindness professionals and employers' implicit attitudes, $F(1,770) = 210.26, p < .0001, \eta^2 = .21$. The average *D* score for employers was 0.76 (SD = 0.39), indicating a strong automatic association for sighted with competence and blind with incompetence. Employers' *D* scores ranged from -0.69 to 1.67.

Despite some observed differences in blindness professionals' *D* scores by type of profession (see Table 1), these differences were not statistically significant, $F(6,315) = 0.69, p = .65, \eta^2 = .01$. Similarly, although a difference was observed in the *D* scores of blindness professionals who worked in the field for 17 years or more and the other two groups (see Table 1), this difference was not statistically significant, $F(2,319) = 2.04, p = .13, \eta^2 = .01$. Because the two groups with shorter work tenures had very similar means, we conducted a follow-up analysis in which we dichotomized the groups into those that worked in the field for less than 17 years versus 17 years or more. The difference between those dichotomized groups was statistically significant, $F(1,320) = 3.99, p < .05, \eta^2 = .01$.

Discussion

In this study, we measured blindness professionals' implicit attitudes about the competence of individuals who are blind, compared blindness professionals' attitudes to attitudes of employers in hiring positions, and examined differences in blindness professionals' attitudes

by type of profession and work tenure. On average, blindness professionals had overwhelmingly more positive implicit attitudes than employers did. Compared to employers, blindness professionals are likely more knowledgeable about how people who are blind perform work tasks, have higher levels of exposure to successful people who are blind, and have more opportunities to engage in interactions with people who are blind across various social contexts. Therefore, this finding was expected, thus providing additional support for the IAT-BVI's validity as a measure of implicit attitudes regarding the competence of people who are blind.

The average IAT-BVI score for blindness professionals fell within the 'slight association for sighted with positive and blind with negative' category, while the average score for employers fell within the 'strong association for sighted with positive and blind with negative' category. More than 86% of employers exhibited a moderate or strong association between sighted and competence/blind and incompetence, while less than half of the blindness professionals did. The large and statistically significant difference in scores has both positive and negative implications. On a positive note, blindness professionals exhibited much smaller implicit bias compared to employers, indicating that these professionals do not strongly hold the ingrained association between blindness and incompetence or dependence that is believed to be prevalent throughout much of society (Allen & Bellstedt, 1996; Koestler, 2004; Scott et al., 2016). On the other hand, if we assume that the strong bias exhibited by employers reflects that of the general population, our results suggest that negative attitudes about blindness persist among the general population.

Although blindness professionals exhibited a much smaller implicit bias towards sighted and competence than employers did, a slight overall association was found. Even if blindness professionals hold explicit attitudes that refute the common societal association between

blindness and incompetence/dependence, implicit attitudes tend to be harder to alter (Jost, Banaji, & Nosek, 2004). Disability exhibited one of the strongest implicit effects across multiple social group domains, and even people with disabilities demonstrated a preference for abled compared to disabled (Nosek et al., 2007); therefore, it is not surprising that blindness professionals exhibited a slight association between sighted and competence. Blindness professionals' implicit association between blind and incompetence actually had a smaller effect size than people with disabilities' implicit association between disabled and bad ($d = 0.61$ versus $d = 0.85$; Nosek et al., 2007).

Professionals who worked in the blindness field for 17 years or longer had slightly more positive implicit attitudes than those with shorter work tenures; however, this difference was only statistically significant in our follow-up analysis. Given this finding and its small effect size, conclusions regarding work tenure should be interpreted with caution. Individuals who worked in the blindness field for 17 or more years can be assumed to possess a high degree of commitment; however, between-group differences may not be large because strength of commitment is yet to be determined for those with shorter work tenures. These professionals' additional experiences with people who are blind throughout their careers could have had a role in shaping their attitudes, as suggested by the finding that quality and quantity of contacts with people with disabilities in multiple social contexts was the only predictor of implicit attitudes about people with disabilities for rehabilitation counseling students (Pruett & Chan, 2006).

Research on implicit attitudes of professionals working with individuals with disabilities supports our findings regarding work tenure. For instance, longer work tenure of physical therapists was related to less implicit bias toward people with disabilities (Galli, Lenggenhager, Scivoletto, Molinari, & Pazzaglia, 2015). An association between negative implicit attitudes and

professional burnout among tutors working with children with autism (Kelly & Barnes-Holmes, 2013) suggests that those with negative implicit attitudes may be more likely to leave their profession. Additional research on relationships between blindness professionals' implicit attitudes and their experiences, job characteristics, and work tenure would clarify and extend these findings.

Limitations and Directions for Future Research

This study included a convenience sample of sighted blindness professionals, which may limit generalizability of our results. Currently, no methodology exists to administer IATs to people who are blind; therefore, our sample was also limited to people who could visually access the IAT stimuli. The many blindness professionals who are blind or visually impaired were not represented in our sample, which is a major limitation of the study. Future development, testing, and validation of a non-visual IAT measure would allow for expansion of this line of research to individuals who are blind.

Although we collected some data on the blindness professionals' characteristics, we did not gather data on education-related variables (e.g., highest level of education completed, area of study) or variables such as employment setting and population served (e.g., ages of consumers, age of onset of vision loss). Examining variables of this nature in future investigations may help to explain the variability in blindness professionals' implicit attitudes. Finally, including a sample of individuals from the general population in future research would provide a more comprehensive account of implicit attitudes towards blindness in society.

Implications for Practice

Increasing our understanding and awareness of implicit attitudes lays the foundation for developing strategies and interventions that aim to change attitudes and ultimately improve

expectations and outcomes for individuals who are blind. Key factors in shaping positive attitudes about the competence of people who are blind may include quality and quantity of contacts with successful people who are blind, and knowledge about how people who are blind perform work tasks (McDonnall & Antonelli, in press). The strong implicit association between blind and incompetence exhibited by employers indicates the importance of providing exposure and education to the general public, which has been recommended in the past (e.g., Augusto & McGraw, 1990; Rowland & Bell, 2012). One study documented that changing explicit attitudes is possible through public education (Marsh & Friedman, 1972). Considering the low prevalence of blindness, deliberate efforts to promote positive attitudes through meaningful contact and targeted education are necessary. Leaving this exposure and education to chance will not produce widespread, measurable change.

Blindness professionals are in a unique position to promote change in attitudes about blindness. These professionals could educate the public about blindness and the capabilities of individuals who are blind as part of their job responsibilities or through informal opportunities. During these educational opportunities, blindness professionals could incorporate information about how people who are blind perform work tasks. Blindness professionals also play an important role in positively influencing the attitudes of their consumers who are blind and their families, sending the clear message that blind people are competent.

For employers, exposure to people who are blind was not associated with implicit attitudes about their competence, even if the employer hired someone who was blind in the past (Authors, in press). Only if the employer had hired someone who was blind *and* rated his/her performance as above average were implicit attitudes more positive. In other words, only specific exposure to above average work performance by a blind person impacted employers'

implicit attitudes about the competence of blind people. Some blindness professionals' may not help people who are blind obtain employment (e.g., O&M specialists who work with children, vision rehabilitation therapists who work with older adults) and they may lack frequent exposure to successfully employed blind people. Increasing exposure to highly successful blind role models both during professional preparation programs and throughout blindness professionals' careers may help to shape their implicit attitudes regarding competence of people who are blind. Professionals working in personnel preparation programs should evaluate how frequently their students get this type of exposure.

On an individual level, a score indicating a slight, moderate, or strong association for sighted with competence and blind with incompetence does not necessarily equate to a negative attitude towards people who are blind. It means that the person automatically (more quickly) makes these associations, potentially meaning that the societal association between blindness and incompetence has been more strongly ingrained, even if the person holds a different explicit attitude. It does not mean the person cannot effectively, or should not, work with this population. The IAT has shown remarkable consistency in implicit social preference for people without disabilities to those with disabilities across gender, age, race, country, and even disability status (Nosek et al., 2007).

Nevertheless, it is important for blindness professionals to consider the meaning of their personal IAT-BVI results, as the IAT can reveal associations that people are not aware of possessing (Nosek, Greenwald, & Banaji, 2007). In that regard, a blindness professional who receives a score indicating moderate or strong association between blind and incompetence could use that information as a springboard for self-reflection and evaluate his or her attitudes about the competence of people who are blind. For example, the professional should consider questions

such as “Do I believe that blind people can perform as well as sighted people on the job? Do I hold high expectations for my consumers? Am I too protective of my consumers? Am I challenging my consumers as much as I should?” Examining implicit biases and how they affect explicit beliefs and behaviors could be an important step toward improving service provision and outcomes for people who are blind.

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Table 1
Blindness Professionals' IAT-BVI D Scores by Type of Profession and Work Tenure

Variable	<i>n</i>	<i>D</i> Score	
		<i>M</i>	<i>SD</i>
Profession			
Multiple professions	25	0.13	0.49
Teacher of students with visual impairments	36	0.26	0.54
Vision rehabilitation therapist	44	0.28	0.52
Orientation and mobility instructor	61	0.31	0.37
Other	74	0.31	0.52
Vocational rehabilitation counselor	58	0.33	0.52
Administrator or supervisor	24	0.39	0.46
Work Tenure (in years)			
Less than 7	107	0.32	0.44
7 to 16	110	0.34	0.51
17 or more	105	0.22	0.51