

Attitudinal Survey About Blind O&M Instructors

Bradley Blair^{1*}, Jaehoon Lee²,
Seungman Kim², Nora Griffin-
Shirley², Laura Bozeman³, The
Nguyen², Jin Yeo⁴, Laura
Delcambre²

¹The Star Center, Jackson, TN, USA.

²Texas Tech University, Lubbock,
TX, USA.

³University of Massachusetts
Boston, School for Global Inclusion
and Social Development, Boston,
MA, USA.

⁴Vanderbilt University, Nashville,
TN, USA.

*Email: bradley.m.blair@gmail.com

Abstract

This study evaluated the attitudes of currently certified orientation and mobility specialists toward orientation and mobility specialists who are blind when teaching orientation and mobility to persons who are visually impaired. Based on the literature review, little to no research has been conducted on attitudes of certified orientation and mobility specialists towards colleagues who are blind. A survey was designed to address this gap by investigating attitudes and perceptions of these specialists toward their colleagues who are blind.

The results were significantly positive in all areas except the item concerning accommodations. The accommodations statement was worded in such a manner that the data were actually positive in regard to perceptions about the abilities of blind certified orientation and mobility specialists. Participants gave the highest ratings to professional development. This was followed by the orientation and mobility skillsets for intersection and Q&A. The correlations of the attitude scores were generally positive and statistically significant as well.

These findings demonstrate a positive trend in the attitudes of certified orientation and mobility specialists toward orientation and mobility specialists who are blind. The results are another step toward the realization that vision may not be a required component for orientation and mobility instruction.

This study serves as a point of comparison for future research to determine if this attitude is truly a trend. Positive trends may indicate equitable opportunities for orientation and mobility specialists who are blind.

Keywords

Attitudes, blind, orientation and mobility, blind instructors

Introduction

There has been very little written about orientation and mobility (O&M) specialists who are blind. People who are blind are often discussed as recipients of O&M services such as Munro et al. (2018) validation study of an assessment instrument for O&M with children, or Welch-Grenier et al. (2022) discussion of the psychosocial effects of the COVID-19 pandemic on children receiving O&M services. Very rarely have people who are blind been talked about as providers of O&M services themselves, and the reason is simple. Historically, there have been very few, and until recently, almost nobody was studying how the O&M specialist who is blind enters into or works successfully within the field. Why then, have there been so few O&M specialists who are blind?

In 1959, the American Foundation for the Blind sponsored the National Conference on Orientation and Mobility at which the original founders of the modern field were tasked to take decisions about how the new professional known as the O&M specialist ought to be trained (Ferguson, 2007). One key decision that would affect prospective blind professionals for decades was that sight was indispensable to the job performance of the O&M, "This conference established the principle that O&M specialists should be sighted rather than blind. Although this point went against the thinking of many in the field, it was felt necessary to allow an instructor to move away and still provide for the client's safety" (Weiner & Siffermann, 2010, p. 487).

Decades elapsed before a person who is blind would be able to certify and be hired as a mobility instructor in the United States. Both Ferguson (2007) and Weiner and Siffermann (2010) document the gradual alteration of vision requirements for the O&M specialist from 20/20 at the field's beginnings in 1959 until 1994, when, thanks in a large part to passage of the Americans with Disabilities Act earlier that decade, criteria for certification took a functional approach not based on the presence of eyesight on the instructor's part. The new criteria admitted the possibility of job tasks

being successfully performed by practitioners with disabilities including by those who are blind (Weiner & Siffermann, 2010).

It is possible that other phenomena such as recent trends in diversity, equity, and inclusion training in education may have future positive impacts on the attitudes of O&M specialists about colleagues from diverse backgrounds, including colleagues who are blind or with other disabilities (Ehrke et al., 2020, Harrison-Bernard et al., 2020). Likewise, research has increasingly highlighted the abilities, methods, and obstacles of COMS who are blind, whether as practitioners or in personnel preparation programs, in the past 10 years. For example, Griffin-Shirley et al. (2019) shed light on the challenges to university programs that lack sufficient resources to support COMS candidates who are blind. Additional publications, including Griffin-Shirley et al. (2021; 2023) signify potential sources of attitudinal change.

Current criteria for becoming a certified orientation and mobility specialist (COMS) consist of preparation across a series of core competencies in a university or equivalent O&M training program, successful completion of an internship, signing of a Code of Ethics, and passage of the Academy for the Certification of Vision Rehabilitation & Education Professionals (ACVREP) examination (Weiner & Siffermann, 2010). While the current certification criteria do not mention visual acuity at all, more current research, (e.g., Griffin-Shirley et al., 2019) reveals that although the path to certification is open to the candidate who is blind, university training programs still do not know how to provide training to O&M candidates that takes their lack of eyesight into account. There exists a dearth of training in adaptive methods, and these authors have found that the successful blind candidates must figure out their teaching strategies themselves. Personnel preparation textbooks (e.g., Fazzi & Barlow, 2017) naturally assume a majority of sighted and able-bodied readers, make no attempts to suggest adaptive techniques for instructors who are blind or who have any other disability. Hence, the professors who train O&M candidates are often at a loss to suggest appropriate adaptations to the candidate who is blind, and the student who is blind must prove their

competence in blindfold simulation/cane training class and well beyond (Griffin-Shirley et al., 2019).

This lack of knowledge about how an O&M instructor who is blind works successfully is situated in a broader attitudinal context that motivates our interest in the current research. Further past research establishes that employer attitudes are generally negative toward people with disabilities and people with visual impairment (VI), specifically, and that these attitudes constitute barriers to employment (McDonnall et al., 2014; McDonnall et al., 2013; McDonnall, 2017). It also establishes that exposure to people with VI does not necessarily promote positive attitudes. Based on the researchers' literature review, little to no research has been conducted on the question of attitudes of COMS towards colleagues who are blind. This study attempts to address this gap by investigating attitudes and perceptions of COMS toward their colleagues who are blind in the United States. Research on other groups' attitudes towards people who are blind forms the theoretical basis for this inquiry.

Attitudes Towards People Who Are Blind

According to American Foundation for the Blind (AFB) (n.d.), employment rates of working-age people with disabilities, including individuals who are VI overall, fell between 2008 and 2017. Research indicates that negative attitudes among employers lead to employment barriers for people with disabilities, especially people with VI (McDonnall, 2014; McDonnall et al., 2013; McDonnall, 2017). According to Hogg and Vaughan (2005) an attitude is "a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (p. 150). Attitudes lead to social judgements as well as behavior (Nayakankuppama et al., 2017; Petty et al., 1997). Addressing negative attitudes of employers towards workers with VI and developing a measurement scale is critical for equity empowerment in the labor market (McDonnall, 2017).

Studies of attitudes of various groups toward individuals with blindness reveal pervasive stigma

(McDonnall & Antonelli, 2018; 2022; McDonnall et al., 2019; Peck & Uslan, 1980; Papadaki & Tzvetkova-Arsova, 2013; Rowland & Bell, 2012). For example, Janicki (1970) found that health care workers felt blindness was the least desirable disability to have. Peck and Uslan (1980) surveyed sighted rehabilitation professionals employed in organizations/schools serving people who were blind (N=283) as well as a group of sighted adults (N=73), (46 white-collar employees and 27 blue-collar workers). More negative attitudes were demonstrated by sighted rehabilitation professionals than were noticed in the other group of sighted white and blue-collar workers. By contrast Rowland and Bell (2012) found, in a study of students in which 12% of respondents were blind (N=564), positive attitudes toward blind people that correlated with being blind and female. A study of individuals from Athens and Crete (N=115) found that it was common to believe that those who are blind have special powers and abilities (e.g., extra sense of hearing, sixth sense) but that some prejudice toward people with VI was nonetheless common (Papadaki & Tzvetkova-Arsova, 2013).

McDonnall et al. (2019) measured implicit attitudes regarding the competence of individuals who were blind among 322 professionals in the field of blindness and 450 employers by administering the Implicit Association Test-Blind/Visually Impaired (IAT-BVI). The participants included 61 O&M specialists. Results showed that the professionals had more positive attitudes than the employers. Specifically, most of the employers (86%) reported a strong association between blindness and incompetence and/or dependence. Another study utilizing the IAT-BVI was administered to 343 employers and found a general belief that people who are blind lack the ability to perform work tasks and obtain high performance ratings (McDonnall & Antonelli, 2018).

Past research has demonstrated the importance of employers' attitudes towards hiring people with disabilities (Gilbride et al., 2000) and individuals with VI (McDonnall, 2014, 2017; McDonnall et al., 2013; McDonnall & Antonelli, 2018; McDonnall et al., 2019). Locating studies between 1987 and 1999 dealing with attitudes of employers toward employees who were blind, Hernandez et al. (2000)

reported that eight of the studies found overall positive attitudes among employers and 11 found negative attitudes towards people with disabilities. In fact, according to AFB (n.d.), employment rates of working-age people, including those with VI have fluctuated during 2008 to 2017. The percentage of working people with disabilities decreased from 39.3% in 2008 to the lowest, 33.1%, in 2011 and recovered to 37.3% in 2017. In comparison with job stability, the number of employees with VI who had a part-time job or worked only part of the year in 2016 was higher than that of those without disability, 32% and 25%, respectively. Gilbride and Stensrud (1992) called for policy to address the needs and concerns of employers rather than simply locating employment for people with disabilities.

None of the above-mentioned research specifically explored the attitudes of O&M specialists toward O&M specialists who are blind, even as the number of O&M specialists with disabilities such as blindness has grown. Specific areas of concern about O&M specialists who are blind teaching students or clients will be identified, potentially prompting the advancement of professional development to educate sighted COMS about O&M specialists with VI. The attitudes of COMS colleagues could impact employment of O&M specialists who are blind in a positive way where they could be available to act as intern supervisors for blind O&M interns. The research question is: "What are the attitudes of currently certified COMS toward O&M specialists who are blind when teaching O&M to persons who are visually impaired?"

Methods

I. Instrument

A survey was designed to identify the attitudes of COMS toward their colleagues who are blind. According to the United States Social Security Administration (n.d.): "...blindness is defined in the law as central visual acuity of 20/200 or less in the better eye with the use of correcting lens. An eye which has a limitation in the field of vision so that

the widest diameter of the visual field subtends an angle no greater than 20 degrees ... (§ 404.1506).

Additionally, Weiner et al. (2010) define blindness as individuals with the "absence or severe reduction of vision" (p. 659). They cannot, by visual means, assess the state of the environment or its risks, or the position or actions of the learner with VI they are teaching. Those who can do that visually to any degree have low vision and are not the population of O&M specialists of interest here.

The survey included three sections: categorization, demographics, and content. The categorization section comprised two questions about certification and current job to exclude participants who were not COMS or were not currently teaching O&M lessons. The demographic section consisted of four questions related to gender, ethnicity, additional disabilities, and the number of years they have been certified. Section 3 included 28 items which were classified into six domains: (1) O&M skill sets with sub-domains (i.e., navigation, instruction, veering, intersection), (2) job responsibilities, (3) assessment, (4) general attitude, (5) accommodations, and (6) professional development (See Appendix A).

Two independent COMS reviewed the survey items. The survey was then piloted with 12 COMS. To avoid bias response, two different response options were used for the content items (i.e., 4-point Likert scales ranging from "Strongly agree" to "Strongly disagree") (Suárez-Alvarez et al., 2018).

II. Procedure

Upon the approval of Texas Tech University's Human Research Protection Program, the research team sent out the survey via Qualtrics to potential participants. Six rehabilitation centers that were currently hiring COMS who provided O&M services in the built environment were requested to deliver the survey to this population. After two weeks, a second email was sent to all chief executive officers of these centers to remind COMS to complete the survey. The survey was also provided to the attendees at the 2022 Association for Education and Rehabilitation of the Blind and Visually

Impaired (AERBVI) International Conference and the 2022 Southwest Orientation and Mobility Association Conference. Additionally, the survey was sent to certified O&M specialists via listserv. By reading the consent page and clicking a survey link, individuals indicated their consent and accessed the survey.

III. Participants

To be eligible for this study, participants had to be (1) specialists who had active O&M certification from ACVREP, and (2) be currently providing direct O&M instruction, as a part of their job duties, to students or clients who were blind or visually impaired. During the period from July to November 2022, 195 individuals were recruited for this study. Of those, 104 eligible participants completed the survey, and their responses were utilized for data analysis. Four participants received \$25 Amazon gift cards in a random drawing at the completion of the data collection.

Individuals holding the certification offered by the National Blindness Professional Certification Board, the National Orientation and Mobility Certification (NOMC), were not invited to participate because the researchers were primarily interested in developments among ACVREP certified COMS. Including NOMCs in the current study would have introduced another variable or nuance into the data, thereby complicating the analysis. However, nothing in the current study should be construed as a negative view of the NOMC certification. Indeed, the inclusion of NOMCs in O&M organizations such as the Orientation & Mobility Specialists Association is a positive development and aligned with the overall motivation for this study.

Many of the participants were female (81.7%) and White (77.9%) and reported no history of disability (89.4%) (see Table 2 for more demographic information). Like the demographics of a national study of O&M specialists by Penrod et al. (2023), the majority the participants in their study were female (77%). This is an accurate portrayal of the current O&M profession in the United States. More than half of the participants held active O&M certification for less than 10 years (31.7% for 0-5 years, and 21.2% for 6-10 years), while 24% and

23.1% had been certified for 11-20 years and more than 20 years, respectively.

IV. Data Analysis

Descriptive statistics were used to summarize demographic characteristics of the participants ($N = 104$) and their responses on the survey items. Scores on 10 attitudinal domains were obtained by combining (averaging) responses on 28 content items. The attitudinal domains included O&M skill sets (i.e., navigation, instruction, veering, intersection, and Q&A), job responsibilities, assessment, general attitude, accommodations, and professional development. Pearson correlations were calculated to demonstrate the associations among these scores. Bivariate and multivariate tests were performed to identify the sociodemographic factors related to the attitude scores. Specifically, the participants were categorized based on their gender, ethnicity, years of certification, or disability status, and the subgroups were compared for each score using t-test or analysis of variance (ANOVA). The Satterthwaite approximation was applied for t-test, if deemed appropriate. When an overall group effect in ANOVA was significant at .05 alpha level, group means were pairwise compared at an alpha level adjusted to control for Type I error (i.e., Bonferroni correction). An effect size (Cohen's d or f) was also calculated for each comparison. Analyses were conducted using SAS 9.4®

Results

Table 1

Descriptive Statistics and Pearson Correlations of Attitude Scores ($N = 104$)

Variable	1	2	3	4	5	6	7	8	9	10
1. O&M skill sets: Navigation	1.00									
2. O&M skill sets: Instruction	.36***	1.00								
3. O&M skill sets: Veering	.36**	.65***	1.00							
4. O&M skill sets: Intersection	.26***	.14**	.32**	1.00						
5. O&M skill sets: Q&A	.67***	.88***	.77***	.40***	1.00					
6. Job responsibilities	.28**	.70***	.70***	.29**	.71***	1.00				
7. Assessment	.21*	.50***	.40**	.11	.46***	.40***	1.00			
8. General attitude	.38***	.77***	.79***	.37***	.84***	.80***	.43***	1.00		
9. Accommodations	.35***	.69***	.72***	.24	.73***	.65***	.53***	.76***	1.00	
10. Professional development	.30	.54**	.35	-.08	.48*	.58***	.33	.43*	.36*	1.00
<i>n</i>	102	101	68	101	104	99	70	102	75	101
<i>M</i>	2.98	3.02	2.99	3.33	3.07	2.98	2.94	2.77	2.23	3.38
<i>SD</i>	0.55	0.49	0.49	0.45	0.39	0.55	0.60	0.56	0.86	0.39

* $p < .05$, ** $p < .01$, *** $p < .001$.

Attitudinal Survey About Blind O&M Instructors

Table 1 presents the descriptive statistics and Pearson correlations of scores on the 10 attitudinal domains. Overall, the attitudes of the COMS toward O&M specialists who are blind were positive, as evidenced by the average attitude scores that exceeded the positive/negative cut point of 2.5. The only exception was the accommodations domain (2.23 ± 0.86) indicating a negative attitude. Among the domains, the participants rated professional development (3.38 ± 0.39) the most favorably. This was followed by the O&M skillsets for intersection (3.33 ± 0.45) and Q&A (3.07 ± 0.39 ; see also Figure 1). The correlations of the attitude scores were positive and statistically significant, with only a few exceptions.

Figure 1

Score Averages in 10 Attitudinal Domains

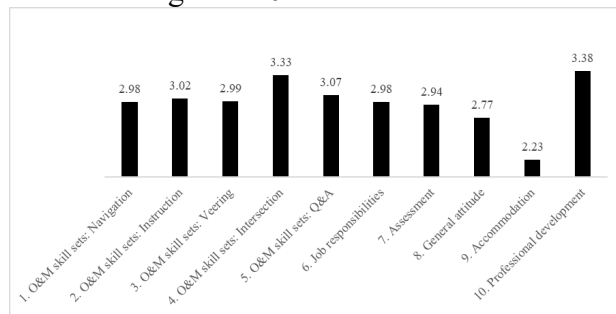


Table 2

Comparison of Attitude Scores by Participant Subgroups ($N = 104$)

Domain	Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i> / <i>F</i>	<i>p</i>	<i>d</i> / <i>f</i>
Navigation	Gender				0.34	.741	0.10
	Female	85	2.98	0.53			
	Male	15	3.03	0.62			
	Race/ethnicity				1.73	.167	0.24
	African American	2	3.17	0.24			
	White	81	2.99	0.52			
	Hispanic	10	2.78	0.70			
	Years of certification				3.60	.016	0.33
	0-5 years	33	3.17	0.53			
	6-10 years	22	3.08	0.51			
Instruction	11-20 years	25	2.85	0.45			
	20+ years	24	2.74	0.61			
	Disability				1.50	.175	0.52
	Yes	7	3.24	0.47			
	No	93	2.96	0.55			
	Gender				1.40	.179	0.48
	Female	85	3.06	0.46			
	Male	15	2.83	0.62			
	Race/ethnicity				0.27	.848	0.10
	African American	2	2.75	0.35			
Veering	White	81	3.03	0.47			
	Hispanic	10	3.08	0.58			
	Years of certification				3.36	.022	0.32
	0-5 years	33	3.08	0.54			
	6-10 years	22	3.25	0.43			
	11-20 years	25	2.84	0.42			
	20+ years	24	2.92	0.48			
	Disability				0.27	.795	0.14
	Yes	7	3.09	0.63			
	No	93	3.02	0.49			
Intersection	Gender				0.34	.738	0.09
	Female	85	2.98	0.53			
	Male	15	3.03	0.40			
	Race/ethnicity				0.83	.481	0.21
	African American	2	2.50	-			
	White	81	2.99	0.47			
	Hispanic	10	3.22	0.40			
	Years of certification				0.97	.415	0.21
	0-5 years	33	3.14	0.44			
	6-10 years	22	2.94	0.50			
Q&A	11-20 years	25	2.96	0.47			
	20+ years	24	2.88	0.57			
	Disability				0.11	.917	0.05
	Yes	7	3.00	0.56			
	No	93	2.97	0.50			
	Gender				0.79	.440	0.20
	Female	85	3.34	0.46			
	Male	15	3.25	0.38			
	Race/ethnicity				0.56	.641	0.14
	African American	2	3.25	0.35			
Professional development	White	81	3.35	0.43			
	Hispanic	10	3.17	0.43			
	Years of certification				2.38	.074	0.27
	0-5 years	33	3.44	0.41			
	6-10 years	22	3.39	0.43			
	11-20 years	25	3.33	0.47			
	20+ years	24	3.13	0.46			
	Disability				1.34	.223	0.62
	Yes	7	3.07	0.53			
	No	93	3.35	0.44			

	Male	15	2.98	0.44			
	Race/ethnicity				0.27	.847	0.09
	African	2	2.94	0.43			
	American	81	3.08	0.36			
	White	10	3.02	0.51			
	Hispanic						
	Years of certification				3.28	.024	0.31
	0-5 years	33	3.17	0.39			
	6-10 years	22	3.19	0.27			
	11-20 years	25	2.94	0.34			
	20+ years	24	2.96	0.46			
	Disability				0.24	.816	0.13
	Yes	7	3.11	0.53			
	No	93	3.07	0.38			
Job responsibilities	Gender				0.26	.801	-0.07
	Female	85	2.99	0.54			
	Male	15	3.03	0.55			
	Race/ethnicity				0.15	.930	0.07
	African	2	3.00	0.00			
	American	81	2.98	0.52			
	White	10	3.10	0.61			
	Hispanic						
	Years of certification				4.28	.007	0.37
	0-5 years	33	3.23	0.47			
	6-10 years	22	2.95	0.46			
	11-20 years	25	2.90	0.47			
	20+ years	24	2.74	0.68			
	Disability				0.85	.425	0.29
	Yes	7	3.14	0.48			
	No	93	2.98	0.55			
Assessment	Gender				0.20	.846	0.05
	Female	85	2.95	0.62			
	Male	15	2.92	0.49			
	Race/ethnicity				1.89	.160	0.25
	African	2	2.00	-			
	American	81	2.94	0.62			
	White	10	3.19	0.37			
	Hispanic						
	Years of certification				0.50	.681	0.15
	0-5 years	33	2.98	0.63			
	6-10 years	22	3.07	0.53			
	11-20 years	25	2.84	0.65			
	20+ years	24	2.86	0.57			
	Disability				1.28	.249	0.31
	Yes	7	3.13	0.25			
	No	93	2.94	0.61			
General attitude	Gender				0.22	.826	0.05
	Female	85	2.78	0.58			
	Male	15	2.76	0.43			
	Race/ethnicity				0.40	.754	0.12
	African	2	2.63	0.88			
	American	81	2.77	0.54			
	White	10	2.90	0.54			
	Hispanic						
	Years of certification				5.89	.001	0.42
	0-5 years	33	3.02	0.49			
	6-10 years	22	2.87	0.53			
	11-20 years	25	2.56	0.47			
	20+ years	24	2.52	0.60			
	Disability				0.39	.706	0.17
	Yes	7	2.86	0.63			
	No	93	2.76	0.56			
Accommodations	Gender				1.24	.238	0.43
	Female	85	2.27	0.87			
	Male	15	1.90	0.88			
	Race/ethnicity				1.16	.319	0.19
	African	2	1.00	-			
	American	81	2.27	0.78			
	White	10	2.22	1.09			
	Hispanic						

	Years of certification				2.03	.117	0.29
	0-5 years	33	2.56	0.78			
	6-10 years	22	2.33	0.97			
	11-20 years	25	2.15	0.81			
	20+ years	24	1.89	0.81			
	Disability				0.99	.372	0.47
	Yes	7	2.60	0.89			
	No	93	2.19	0.87			
Professional development	Gender				1.46	.161	0.47
	Female	85	3.42	0.38			
	Male	15	3.23	0.46			
	Race/ethnicity				2.64	.054	0.30
	African	2	3.75	0.35			
	American	81	3.34	0.39			
	White	10	3.65	0.34			
	Hispanic						
	Years of certification				1.44	.236	0.21
	0-5 years	33	3.47	0.44			
	6-10 years	22	3.43	0.28			
	11-20 years	25	3.27	0.36			
	20+ years	24	3.33	0.44			
	Disability				1.85	.107	0.70
	Yes	7	3.64	0.38			
	No	93	3.37	0.39			

Table 2 presents the attitude scores for participant subgroups, along with the results of subgroup comparison. Overall, the scores were comparable between males and females (all $p > .05$), as well as between the three race/ethnicity groups (all $p > .05$). The participants with disability rated blind O&M specialists more favorably in all domains except intersection, compared to those without disability. However, these differences were not statistically significant (all $p > .05$).

In general, the participants with more years of O&M certification exhibited less favorable attitudes than those with fewer years. These differences were statistically significant for the domains of navigation ($p < .05$, $f = 0.33$), instruction ($p < .05$, $f = 0.32$), Q&A ($p < .05$, $f = 0.31$), job responsibilities ($p < .01$, $f = 0.37$), and general attitude ($p < .001$, $f = 0.42$). Post-hoc pairwise comparisons revealed significant differences in navigation between 0-5 years vs. 20+ years (adjusted $p = .022$); in instruction between 6-10 years vs. 11-20 years (adjusted $p = .022$); in job responsibilities between 0-5 years vs. 20+ years (adjusted $p = .005$); and in general attitude between 0-5 years vs. 6-10 years (adjusted $p = .006$) and between 0-5 years vs. 20+ years (adjusted $p = .004$).

Discussion

This study examined attitudes of COMS toward O&M specialists who are blind. The attitudes of the participants were generally positive, except for the accommodations domain. The professional development domain received the highest rating. The attitude scores were comparable between gender and race/ethnic groups, but participants with more years of O&M certification had less favorable attitudes in some domains.

All the domain scores trended positively, even the accommodations domain which scored below the cutoff score of 2.5. The accommodations domain consisted of a single question which reads as follows, "An O&M instructor who is blind should always employ a sighted assistant for high-risk mobility situations." Respondents who disagreed with this statement were considered to have a positive outlook, as they felt that a COMS who is blind does not necessarily need a sighted assistant in high-risk O&M teaching situations. However, the word "always" in the question is seen as a limitation because it is deemed too strong of a qualifier. Dropping that word might have produced different responses on this question. The word "high-risk" was also left to the respondent to define. All other question domains scored above the 2.5 cutoff.

Because this study is the first of its kind, comparisons to the past are not possible. However, there is evidence to suggest that negative attitudes towards COMS who are blind may be receding. First, qualifications for O&M specialists have eliminated visual acuity requirements. From the 1959 National Conference on Orientation and Mobility where stable 20/20 vision was first established as a sine qua non for university training program candidates, to the 1971 reduction of clinical acuity requirements to 20/40 vision with 140 degrees of field, and finally to the elimination of vision-based requirements by the Orientation and Mobility Division (Division 9) of AERBVI in 1994, an increasing recognition that being sighted is not an indispensable part of being an O&M specialist is palpable (Bledsoe, 2010; Ferguson, 2007; Weiner & Siffermann, 2010). This shift does not necessarily mean that COMS who are blind have gained

unqualified acceptance thereafter, but it may indicate a favorable trend.

Certification Pathways Not Discussed

The certification offered by the National Blindness Professional Certification Board (NBPCB) was not considered, and NOMCs were not invited to participate, and this decision merits explanation. First, although the NBPCB, and particularly the NOMC training program, explicitly supports the participation of a qualified person who is blind in the field of O&M (Ferguson, 2007), it does not necessarily equate to positive developments among sighted ACVREP COMS. Discussion of a second certification pathway, however rigorous and positive concerning qualified blind applicants, would not have been relevant to the research questions under study concerning the attitudes of sighted O&M instructors towards blind colleagues in the field. Therefore, including holders of another certification would have unnecessarily complicated the data. However, nothing in the current study should be construed as a negative view of the NOMC certification. Indeed, the inclusion of NOMCs in O&M organizations such as the Orientation & Mobility Specialists Association (OMSA) represents further evidence that people who are blind are increasingly accepted as practitioners of O&M, not just as recipients of it.

In the past, COMS did not have ready access to mainstream publications that showcased how a COMS who is blind successfully does the work of an O&M specialist. For example, neither Weiner et al. (2010) *Foundations of Orientation and Mobility* nor Fazzi and Barlow's (2017) *Orientation and Mobility Techniques* contains anything about alternative teaching strategies employable by a specialist who is anything other than fully sighted and able bodied. This lack of knowledge may have contributed to the prevailing opinion that this work was impossible, in line with earlier literature on attitudes towards disability. Research may be driving as well as reflecting a change in attitude, and practitioners of today are better able to find information about how people who are blind can and do fulfill the job duties of a COMS. The present study takes its place in this tradition of professional

literature that illuminates the capabilities and challenges of the COMS who are blind.

Implications for Practitioners

With this study, it would be valuable to measure attitudes of COMS again in the future. If more professional development workshops and presentations showcasing the presence and success of COMS who are blind appear in the future, it is possible that such research would show a positive trend. Future research might also address limitations, for example by eliminating unnecessary qualifiers like the words “always” and “must” in the survey items.

Furthermore, articles focusing on topics like this one could serve as a positive incentive for recruiting future potential O&M specialists who are blind to personnel preparation programs. If professors have an idea of how to support such individuals and if internship supervisors read articles such as this one, a qualified blind applicant may be more likely to choose O&M as a field of study and complete the program. Finally, employers familiar with this strand of literature may be more willing to hire a newly certified COMS who happens to be blind. Additionally professional development workshops and presentations showcasing the presence and success of COMS who are blind for employers, people who are blind seeking an occupation, and COMS would be helpful in emphasizing a positive attitude toward O&M specialists who are blind.

Limitations

This study's limitations include the lack of standardization of the instrument, participant bias, Hawthorne effect (Gall et al., 1996), self-selected participants, and convenience sample. Although the survey questionnaire was expertly reviewed, it was not standardized, which may have led to biased responses. The participants in this study were selected based on convenience, which may have further impacted the reliability of the results. Also, the Hawthorne effect (Gall et al., 1996) suggests that respondents may have answered questions based on perceived expectations rather than their

actual beliefs or attitudes. Another limitation was the participants were self-selected resulting in more positive perceptions.

To address these limitations, future studies might use larger random samples, diversify recruitment techniques, and implement effective strategies for identifying the target population and potential Hawthorne effect (Gall et al., 1996). Follow-up procedures with non-responders should also be put in place to increase response rates. Moreover, the survey design should be user-friendly, easy to understand to avoid rushed responses and provide open-ended questions. To collect data from a more diverse population, utilizing listservs could be an effective approach, as doing so might target a wider range of subjects, from university-level students to seasoned professionals.

Conclusion

Future studies could include a survey of people who are visually impaired and receiving services to obtain a broader perspective on attitudes toward COMS who are blind and include open fields and/or a ‘multiple ethnicity/other’ group, as many would not identify with the three specified and for gender groups as well. This would provide useful and important information to the entire community. With this additional research the authors hope O&M specialists who are blind will be accepted by their peers, employers, and those they serve as indicated by the participants of this study.

References

1. American Foundation for the Blind. (n.d.). Reviewing the disability employment research on people who are blind or visually impaired: Key takeaways. <https://afb.org/research-and-initiatives/employment/reviewing-disability-employment-research-people-blind-visually>Reference
2. Bledsoe, C. W. (2010). The originators of orientation and mobility training. In W. R. Wiener, R. L. Welsh, & B. B. Blasch (Eds.), *Foundations of orientation and mobility, Volume I: History and theory* (3rd ed., pp. 434-485). AFB Press.Reference

3. Ehrke, F., Ashoe, A., Steffens, M. C., & Louvet, E. (2020). A brief diversity training: Raising awareness of ingroup privilege to improve attitudes towards disadvantaged outgroups. *International Journal of Psychology*, 55(5), 732-742.

4. Fazzi, D. L. & Barlow, J. M. (2017). *Orientation and mobility techniques: A guide for the practitioner* (2nd ed.). AFB Press.

5. Ferguson, R. (2007). *The Blind Need Not Apply: a history of overcoming prejudice in the orientation and mobility profession*. Information Age Publishing Inc.

6. Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction* (6th ed.). Longman Publishers.

7. Gilbride, D. D., & Stensrud, R. (1992). Demand-side job development: A mode for the 1990s. *Journal of Rehabilitation*, 58(4), 34.

8. Gilbride, D., Stensrud, R., Ehlers, C., Evans, E., & Peterson, C. (2000). Employers' Attitudes Toward Hiring Persons with Disabilities and Vocational Rehabilitation Services. *The Journal of Rehabilitation*, 66(4), 17.

<https://link.gale.com/apps/doc/A68865432/HRCA?u=aon-e2b8972f&sid=googleScholar&id=2d6adfb2>

9. Griffin-Shirley, N., Bozeman, L., Obiero, N. A., Steinle, K. J., & Page, A. (2019). Preparation of Orientation and Mobility Specialist Students Who are Blind and Have Low Vision: Survey of Faculty Who Teach Blindfold and Simulation Cane Courses. *Journal of Visual Impairment & Blindness*, 113(4), 355–365. <https://doi.org/10.1177/0145482X19865382>

10. Griffin-Shirley, N., Bozeman, L., Nguyen, T., Othun, V., Page, A., Hahm, J., Hahm, J., & Lee, J. (2021). A Survey of Blind Orientation and Mobility Specialists about the Accommodations and Teaching Strategies They Use When Providing Orientation and Mobility Services. *Journal of Visual Impairment & Blindness*, 115(3), 190–203. <https://doi.org/10.1177/0145482X211018000>

11. Griffin-Shirley, N., Bozeman, L., Okungu, P., Nguyen, T., Ihenagwam, C. (2023). Non-visual teaching skills and strategies orientation and mobility instructors who are blind use to ensure the safety of the students with visual impairment. *British Journal of Visual Impairment*, 0(0). <https://doi.org/10.1177/02646196231152343>

12. Harrison-Bernard, L. M., Augustus-Wallace, A. C., Souza-Smith, F. M., Tsien, F., Casey, G. P., &

Gunaldo, T. P. (2020). Knowledge gains in a professional development workshop on diversity, equity, inclusion, and implicit bias in academia. *Advances in Physiology Education*, 44(3), 286-294.

13. Hernandez, B., Keys, C., & Balcazar, F. (2000). Employer attitudes toward workers with disabilities and their ADA employment rights: A literature review. *Journal of Rehabilitation*, 66(4), 4-16.

14. Hogg, M., & Vaughan, G. (2005). *Social Psychology* (4th ed.). London: Prentice-Hall.

15. Janicki, M. P. (1970). Attitudes of health professionals toward twelve disabilities. *Perceptual and Motor Skills*, 30(1), 77-78.

16. McDonnall, M. C. (2017). Additional evidence for the validity of the Employer Attitudes toward Blind Employees Scale. *Rehabilitation Counseling Bulletin*, 60(3), 155-162.

17. McDonnall, M. C., & Antonelli, K. (2018). Employers' implicit attitudes about the competence of people who are blind. *Rehabilitation Psychology*, 63(4), 502.

18. McDonnall, M. C., & Antonelli, K. (2022). Changing employers' implicit attitudes about the competence of people who are blind. *Journal of Visual Impairment & Blindness*, 116(3), 361-372.

19. McDonnall, M. C., Cmar, J. L., Antonelli, K., & Markoski, K. M. (2019). Professionals' implicit attitudes about the competence of people who are blind. *Journal of Visual Impairment & Blindness*, 113(4), 341-354.

20. McDonnall, M. C., O'Mally, J., & Crudden, A. (2014). Employer knowledge of and attitudes toward employees who are blind or visually impaired. *Journal of Visual Impairment & Blindness*, 108(3), 213-225.

21. McDonnall, M. C., Zhou, L., & Crudden, A. (2013). Employer attitudes towards persons who are blind or visually impaired: Perspectives and recommendations from vocational rehabilitation personnel. *Journal of Rehabilitation*, 79(3), 17-24.

22. Munro, H. R., Darst, S., & Pogrud, R. L. (2018). Development and Initial Validation of the for Orientation and Mobility Specialists to Determine Service Intensity. *Vision Rehabilitation International*, 9(1), 11-21.

23. Nayakankuppama, D., Priesterb, J. R., Kwonc, J. H., Donovan, L. A. N., & Petty, R. E. (2017). Construction and retrieval of evaluative judgments: The attitude strength moderation model. *Journal of Experimental Social Psychology*, 74, 54-66.

24. Papadaki, M., & Tzvetkova-Arsova, M. (2013). Social attitudes and beliefs of sighted people towards blindness and blind persons. *Specijalna Edukacija i Rehabilitacija*, 12(4), 481-499.
25. Peck, A. F., & Uslan, M. M. (1980). Beliefs about public attitudes toward the blind. *Journal of Rehabilitation*, 46, 36-39.
26. Penrod, W. M., Burgin, X. D., Wiener, W. R., Siffermann, E., & Blasch, B. (2023). Orientation and Mobility Competency Agreements From 1983 to 2019: A Comparative Analysis of Professional Standards. *Journal of Visual Impairment & Blindness*, 117(4), 270-277.
27. Petty, R. E., Wegener, D. T., & Fabrigar, L. R. (1997). Attitudes and attitude change. *Annual Review of Psychology*, 48, 609-647. <https://doi.org/10.1146/annurev.psych.48.1.609>
28. Rowland, M. P., & Bell, E. C. (2012). Measuring the attitudes of sighted college students toward blindness. *Journal of Blindness Innovation and Research*, 2(2), 1-6.
29. Social Security Administration. (n.d.). Blindness. https://www.ssa.gov/OP_Home/cfr20/404/404-1581.htm
30. Suárez-Alvarez, J., Pedrosa, I., Lozano, L. M., García-Cueto, L., Cuesta, M., & Muñiz, J. (2018). Using reversed items in Likert scales: A questionable practice. *Psicothema*, 30(2), 149-158. [10.7334/psicothema2018.33](https://doi.org/10.7334/psicothema2018.33)
31. Welch-Grenier, S., Fast, D., Kaiser, J., & DeGrant, J. N. (2022). Orientation and mobility remote instruction during COVID-19: Best practices, liability, and ethics. *British Journal of Visual Impairment*, 02646196221144871.
32. Weiner, W. R., & Siffermann, E. (2010). The development of the profession of orientation and mobility. In B. B. Blasch, W. R. Weiner, R.L. Welsh. (Eds.). *Foundations of orientation and mobility*, (2nd ed., pp. 486-532). AFB Press.
33. Weiner, W.R., Welsh, R.L., & Blasch, B.B.(Eds.). (2010). *Foundations of orientation and mobility*. (3rd ed, Vol. I and II). AFB Press.

Appendix A

Domain Items from the Survey

Navigation

A person who is blind is less able to navigate the environment than a person who is fully sighted.

A person with low vision can better navigate the environment than a person who is blind.

Travelers who are blind are just as capable of navigating the environment as the general sighted public.

Instruction

O&M instructors who are blind should only teach indoor mobility skills.

An O&M instructor who is blind can teach low vision skills.

An instructor who is sighted can teach cane skills more efficiently than one who is blind.

An O&M instructor who is blind can detect improper cane arc width.

O&M instructors who are blind can teach stair travel as effectively as their fully sighted counterparts.

O&M instructors who are blind can teach the use of public transit services (e.g., buses, trains, subways) as effectively as their fully sighted counterparts.

An O&M instructor who is blind can effectively coach a guide dog team.

Veering

A learner's veering is detectable to an instructor who is blind.

An O&M instructor with low vision is better able to help a learner with veering issues than one who is blind.

An O&M instructor who is blind can prevent a new learner from veering into traffic as effectively as an instructor who is sighted.

Intersection

Traffic flow at a complex intersection can be correctly analyzed without any sight.

An intersection can present too great a risk even to pedestrians who are fully sighted.

Job Responsibilities

I believe that a professionally qualified O&M specialist who is blind could do my current job.

I would be willing to be supervised by a senior O&M specialist who is blind.

I would be willing to hire a newly certified COMS who is blind for an O&M position.

I would be comfortable supervising the internship experience of an O&M student candidate who is blind.

Assessment

Prospective O&M students who are blind need to pass a travel assessment prior to enrolling in O&M personnel preparation courses.

Using alternative methods, an O&M instructor who is blind can perform an accurate travel vision assessment.

Attitude

The more vision a person has, the better they are at perceiving dangers in the environment.

I believe that a professionally qualified O&M specialist who is blind could do my current job.

I would be willing to hire a newly certified COMS who is blind for an O&M position.

Children who are blind, including early intervention through high school-age, should be taught O&M by sighted instructors.

O&M instructors who are blind should be allowed to teach any skill that their sighted counterparts are teaching.

An O&M instructor who is blind should only be hired to teach adult learners.

Accommodation

An O&M instructor who is blind should always employ a sighted assistant for high-risk mobility situations.

Professional Development

I wish I knew more about how O&M instructors who are blind do their jobs.

I would like to participate in an in-service or workshop about effective alternative nonvisual instructional techniques.