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Predictors of Employer Attitudes toward Blind Employees, Revisited

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Abstract

Background: Negative employer attitudes have been identified as a major barrier to employment for people who are blind or visually impaired, yet we know little about what influences employer attitudes toward this population.

Objective: The purpose of the study was to replicate an earlier study of predictors of employer attitudes towards people who are blind or visually impaired as employees, utilizing a larger sample of employers and including additional predictor and control variables.

Method: An online survey was conducted with a national sample of hiring managers, resulting in a usable sample of 379. Multiple regression was utilized to identify predictors of employer attitudes.

Results: Five variables significantly predicted employer attitudes: having hired someone in the past, knowledge about how work tasks can be accomplished, belief in knowledge, having a relationship with vocational rehabilitation (VR), and being female. Although communication with VR had a strong association with employer attitudes, having hired functioned as a mediator of the relationship between it and employer attitudes, indicating that communication with VR may influence employers' hiring decisions.

Conclusions: VR professionals should interact with employers as much as possible to encourage the hiring of people who are blind or visually impaired. Going beyond initial contacts to developing relationships is important.

Keywords: Employer Attitudes, Blindness, Visual Impairment, Vocational Rehabilitation, Business Development

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Despite federal legislation to support employment of people with disabilities (e.g., Americans with Disabilities Act [ADA], Rehabilitation Act, Workforce Investment Act), the employment rate of working aged people with a visual difficulty is well below the employment rate of the working age population without disabilities (32.3% versus 72.2%) (Bureau of Labor Statistics, 2016). These laws, as well as other methods to promote hiring people with disabilities, such as tax credits or subsidies for on-the-job training programs, have had limited success in improving employment rates, as evidenced by the downward trend in employment of people with disabilities since the 1990s (Barnow, 2008; Burkhauser & Stapleton, 2004; Luecking, 2008), which was exacerbated by the recent great recession (Kaye, 2010; Livermore & Honeycutt, 2015). It is important to investigate other strategies to improve employment outcomes for people who are blind or visually impaired. However, to identify or develop effective strategies to promote positive employment outcomes for this population, we need more information about why this gap in employment rate continues to exist and how it can be addressed.

Research on Employer Attitudes

Employer attitudes toward people with disabilities is a topic that has received considerable research attention as it has been identified as a potential reason for their low employment rates (see Burke et al., 2013; Hernandez, Keys, & Balcazar, 2000; Ju, Roberts, & Zhang, 2013; Unger, 2002 for comprehensive literature reviews). Attitudes are typically regarded as conscious or unconscious evaluations based on actions, feelings, or thoughts that may influence subsequent behavior (Eagly & Chaiken, 2007; Fishbein & Ajzen, 1975). When negative attitudes arise in hiring situations, those attitudes can adversely impact job applicants (Bendick & Nunes 2012).

Exposure to people with disabilities in personal or employment environments has consistently been associated with more positive attitudes toward them (Hernandez et al., 2000; Ju et al., 2013; Unger, 2002). This exposure may assist employers in learning about job accommodations and discerning the differences between the actual experience of working with a person with a disability and what the employer may have learned about disability through the media or other sources. Attitudes have also been associated with factors such as type and severity of disability and employer misconceptions about disability, but even employers who expressed generally favorable attitudes were not necessarily willing to hire people with disabilities (Hernandez et al., 2000; Unger, 2002). Although not a predictive factor in previous employer attitudes studies, women have been found to have more positive attitudes regarding people with disabilities than men (Goreczny, Bender, Caruso, & Feinstein, 2011; Hergenrather & Rhodes, 2007; Tervo, Azuma, Palmer, & Redinius, 2002). Consequently, it may be relevant to consider gender when evaluating employer attitudes.

Potentially, knowledge about the ADA has caused employers to be more aware of how they respond to queries regarding their attitudes towards people with disabilities, leading to a tendency to cite their company policies regarding employment of people with disabilities rather than their personal beliefs (Luecking, 2008). It may be difficult to discern employers' personal attitudes and how those attitudes might influence implementation of their company policies. However, when an employer has a negative attitude about people with disabilities, it is difficult for a person with a disability to be seriously considered for employment (Chen, Blankenship, Austin, Cantu, & Kotbungkair, 2016).

Human resources (HR) personnel typically handle job accommodation requests and are identified by employers as the contact point regarding employment for people with disabilities

(Bruyere et al., 2006). Thus, attitudes of HR personnel may be particularly important to the employment of people with disabilities, and one might expect that HR personnel would have more positive attitudes towards this population. When predicting the commitment of HR personnel to hiring people with disabilities, knowledge about job accommodations and the ADA were two significant factors (Chan et al., 2010). However, some researchers have found HR knowledge and experience about job accommodations limited (Chan et al., 2010; Unger & Kregel, 2003).

Both education and knowledge are regarded as important factors in changing attitudes (Hilgard, 1980; Hunt & Hunt, 2004). Employers have expressed concern about their lack of knowledge regarding job accommodations for people with disabilities when making hiring decisions (Donzal, Houtenville, & Sharma, 2008) and employers have more concerns about providing job accommodations when they have never hired a person with a disability (Dixon, Kruse, & Van Horn, 2003). These concerns may influence employer receptivity to hiring people with disabilities.

Employer Attitudes toward People who are Blind or Visually Impaired

For people who are blind or visually impaired, the impact of employer attitudes has emerged as one of the most consistently identified and important barriers to employment (e.g., Crudden, Williams, McBroom, & Moore, 2002; Kirchner, Johnson, & Harkins, 1997; McDonnall, Zhou, & Crudden, 2013). Previous research has indicated that employers have more concern about hiring people with visual impairments than people with other disabilities (Fuqua, Rathburn, & Gade, 1984; Gilbride, Stensrud, Ehlers, Evans, & Peterson, 2000; Inglis, 2006; Williams, 1972). This concern may be associated with lack of knowledge about both job accommodations and about visual impairment in general. A recent study found employers more

concerned about hiring someone with a visual impairment than any other disability and those employers less willing to have a person with a visual impairment perform filing tasks than other job duties, indicating the employers had limited knowledge about job accommodations for people with visual impairments (Chen et al., 2016).

Providing education and increasing knowledge about how people who are blind or visually impaired can function on a job is one technique VR professionals recommend to address employers' attitudinal barriers and encourage hiring (McDonnall et al., 2013; McDonnall & Crudden, 2014). Therefore, communication with VR could be expected to have a positive association with attitudes. Beyond just communication, employers report that having a relationship with VR is helpful to facilitate hiring of people who are blind or visually impaired, and that working with VR is an effective method to educate and advocate for hiring this population (Crudden et al., 2002; McDonnall & Crudden, 2015). Developing ongoing relationships with employers is key to the dual customer or business relations approach to job development advocated by the Council of State Administrators of Vocational Rehabilitation, but little empirical research has been conducted that actually supports the efficacy of this approach.

Despite the concern that employer attitudes negatively impact employment for this population, very little research has been conducted to identify factors associated with employer attitudes specifically toward people who are blind or visually impaired. One previous study on this topic (McDonnall, Crudden, & O'Mally, 2015) identified three variables that significantly predicted employer attitudes: having hired someone who was blind or visually impaired in the past (strongest predictor), having communicated with the state VR agency, and knowledge about how people who are blind or visually impaired perform specific job tasks. Interestingly, in that study, neither having a personal relationship nor working with someone who is blind or visually

impaired were related to employer attitudes. Additionally, being an HR professional was not reflective of more positive attitudes. Several limitations were identified for this study, including lack of information about the amount of contact between VR and the employer, lack of demographic information about participants, and the potential that socially desirable responding may influence employers' self-reported attitudes.

Purpose of the Study

The purpose of this study was to confirm findings from the earlier study that investigated predictors of employer attitudes towards people who are blind or visually impaired as employees (McDonnall et al., 2015) with a larger sample of employers. In this second study, the same data were collected along with additional data to address some of the previous study's limitations – basic participant demographic information and more detailed information about contact with VR and extent of the relationship. Hypotheses were utilized when previous research indicated an association, and research questions were used when little evidence, or mixed evidence, existed for a relationship. The following hypothesis and research questions were investigated:

1. Knowledge, having hired someone who is blind or visually impaired, and communication with VR will be significant predictors of employer attitudes in a multivariate model.
2. Is having an ongoing relationship with VR associated with more positive attitudes?
3. Is belief in knowledge about how a person who is blind or visually impaired can perform work tasks associated with more positive attitudes?
4. Is previous exposure to people who are blind or visually impaired (i.e., working with or having a personal relationship with) associated with more positive employer attitudes?
5. Is being in a human resources position associated with more positive employer attitudes?

Method

Participants and Data Collection Procedure

Hiring managers (i.e., people employed by a company that make hiring decisions for that company) were the target population for this study. SurveyMonkey (SM) Audience was used to identify the sample. This is a fee-based service provided by SM to identify participants that meet specific requirements for online surveys. SM has identified a large number of people who have agreed to complete surveys, with a small donation given to a charity for their participation. A stratified sample (based on company size) of managers, executives, and human resources personnel who were thought to likely have hiring authority was identified by SM Audience. A screening question was used to determine if the individuals identified did have hiring authority, and those who did were invited to complete the survey. Data were collected online through a survey in the author's SM account. SM Audience sent the invitation to participate to 2,476 people who were employed in one of the job categories previously mentioned. A sample size of 400 was targeted.

Variables and Measures

Employer attitudes. The dependent variable was employer attitudes towards people who are blind or visually impaired as employees. Employer attitudes were measured with the Employer Attitudes toward Blind Employees Scale (EABES; McDonnall, 2014, 2016). The EABES is an 11-item instrument that consists of two subscales: productivity and challenges. Items consist of statements that respondents are asked to rate using a 7-point scale ranging from Strongly Disagree to Strongly Agree (e.g., "People who are legally blind would be able to perform work of the same quantity as sighted people at my company" and "Our customers might feel uncomfortable having a person who is legally blind help them"). Higher scores indicated more positive attitudes, with a potential score range of 0 to 66. Psychometric analyses of the

initial version of the instrument included evaluation of item-total correlations, standard deviations, item range of responses, coefficient alpha, and exploratory factor analysis. The instrument was then administered to the SM Audience sample and confirmatory factor analysis was utilized to document the reliability and validity of the measure (see McDonnall, 2016). The original 11 items of the EABES were utilized as the attitude measure for this study (as opposed to the revised version which includes one different item), to directly compare these results to the previous study. Evidence for the validity and reliability of the original version was documented, with adequate CFA goodness of fit statistics (i.e., CFI of .973, SRMR of .047, RMSEA of .063) and Cronbach's alpha coefficients of .90 (productivity subscale) and .84 (challenges subscale) (McDonnall, 2016).

Employer knowledge. Employer knowledge about how blind or visually impaired people can perform specific job tasks was one of the key independent variables. Employers were asked if they were aware of ways in which someone who is blind or visually impaired can (a) access pre-printed material (i.e., documents printed out on paper); (b) access a computer to use the internet, email, or utilize standard computer software; (c) use general office equipment, such as a multifunction document center or multi-line telephone system; (d) utilize standard industrial equipment or machinery (e.g., sewing machines or production equipment); and (e) handle a cashier position (including taking money, making change, and managing a cash register). If the person answered yes, he or she was asked to specify how a blind or visually impaired person could perform the task. The open-ended responses to this "how" portion of the question were scored for accuracy. Extensive pilot coding was conducted in the previous study to develop a coding scheme for determining accuracy of descriptions of how each job task could be performed by an employee who is blind or visually impaired. Data for this study was

independently coded by two researchers using the previously devised coding scheme. Initially, there was a 67.4% consistency rate in coding items. The researchers discussed all inconsistencies and reached a consensus for scoring discrepant items. One point was assigned for each correct response, for a possible range of scores between 0 and 5.

Belief in knowledge. Many employers indicated that they knew how a person could perform the given task, but did not provide an accurate answer in their “how” response. If the participant provided a “how” response that was incorrect, indicating that they thought they knew how a person could perform a job task, they were given one point for this measure. The possible range of scores was 0 to 5.

Communication with VR. This variable was assessed with the participants’ response to the following question: “Have you ever communicated with your state vocational rehabilitation (VR) agency about employment of people with disabilities?”

Relationship with VR agency. If participants indicated that they had communicated with their state VR agency, they were asked two follow-up questions: “Which best describes your relationship with the VR agency?” and “Has this included talking about people who are blind or significantly visually impaired?” The first question had four response options: (a) Spoke to someone once, (b) Had several interactions in the past but not currently, (c) Have occasional contact with someone from the agency, and (d) Have an ongoing relationship with someone at the agency. For the purposes of this study, we were primarily interested in whether having an ongoing relationship that includes talking about people who are blind or visually impaired was associated with more positive employer attitudes. Therefore, if a respondent indicated an ongoing relationship with VR that included talking about people who are blind or visually impaired, this variable received a value of one.

Exposure to blind or visually impaired people. Three measures were used to represent different types of exposure to the population, including having hired someone. These variables originated from responses to individual items that each had a yes-no response format. General exposure was measured using the question: “Have you ever had a personal relationship with anyone who is blind or significantly visually impaired, such as a friend, family member, or neighbor?” Another item measured exposure in a work setting: “Have you ever worked directly with someone who is blind or significantly visually impaired?” The third item determined whether the respondent had ever hired someone: “Have you ever hired someone for your business who is blind or significantly visually impaired?” The majority of those who had hired someone also reported having worked with someone who is blind or visually impaired. Because of the close association between having hired and worked with someone, we modified the work exposure variable to only include those respondents who had worked with but had not hired someone who was blind or visually impaired (i.e., if a respondent had hired someone who was blind or visually impaired, their score on the “worked with only” exposure variable was zero). This allowed the determination of an effect for having worked with someone but not having made the hiring decision about the person.

Human resources personnel. Respondents were asked to identify the job title that most closely reflects their current position, with options of Manager/Supervisor, HR Personnel, Director/Chief executive, Owner, and Other. This item was dichotomized to HR personnel versus all other positions, as HR personnel were thought to potentially have more positive attitudes towards the population as they typically handle job accommodation requests (Bruyere, et al., 2006; Unger & Kregel, 2003).

Control variables. Participant gender, education level, and income were included in the model to control for these factors. Each was a dichotomous variable, with education dichotomized by having obtained a college degree or not and high income dichotomized at a salary of \$100,000 or more per year.

Statistical Analyses

Dichotomous variables were coded one if the participant responded “yes” or if the condition applied to the person, and zero if the person answered “no” to the item or if the condition did not apply. Descriptive statistics were obtained for each variable and correlations among all variables were calculated. Multiple regression was the statistical technique used to address the hypothesis and research questions. Because the knowledge variable was highly positively skewed, two transformations were attempted to create a more normally distributed variable: the square root and the logarithm plus one. The square root transformation resulted in a variable that was closest to a normal distribution and was used in the multiple regression model. The model was run both with this variable and with the original variable, and the results were essentially the same. The transformed variable was retained for the multiple regression analyses, but the original variable was utilized for descriptive statistics. SAS Version 9.4 was used for all statistical analyses. An alpha level of .05 was used to determine statistical significance.

Results

Participants

We received 845 responses to the online survey invitation (a 34.1% response rate¹), of which 605 were eligible to participate (i.e., employed in hiring positions). The online survey was completed by 579 of these respondents. Data was carefully screened to ensure respondents took adequate time to complete the survey (more than 5 minutes was required), answered the screener

question correctly (i.e., a question that asks the person to select a specific response), and did not provide nonsensical answers to any write-in items. Respondents who did not meet these requirements were dropped from the analyses to ensure integrity of the data. This screening resulted in a usable sample of 379 participants with no missing data on variables of interest to this study. The majority of participants were female, between the ages of 35 and 54, held a Bachelor's or graduate degree, and had an annual income of \$75,000 or more. Additional information about participant demographics, job titles, and company size is presented in Table 1.

Descriptive Statistics

The average employer attitude score was 34.03 (SD = 13.49), with scores ranging from 0 to 66. The average score on the knowledge scale was 0.25 (SD = 0.60), with scores ranging from 0 to 3. A large majority of respondents (82.3%) did not know how any of the work tasks could be performed. More employers thought they knew how blind or visually impaired people could perform the tasks than actually did, with a belief in knowledge average score of 1.16 (SD = 1.42). The other variables were all dichotomous, with means in Table 2 representing the percentage of the sample that the factor applied to. For example, 38.3% of the sample had communicated with their state VR agency and 32.7% had hired someone who was blind or visually impaired.

Pearson's r was computed to evaluate the association between the variables, presented in Table 2. Employer attitudes were positively correlated with the variables of interest, with the exception of having only worked with (but not hired) someone who was blind or visually impaired. Employer attitudes were not correlated with gender, but had a small positive correlation with having a high income and having a college degree. The variables of interest generally had low to moderate correlations with each other, with the exception of communication

with VR and having hired someone who was blind or visually impaired, which had a strong correlation ($r = .64$).

Multiple Regression Model

The eight independent variables and three control variables were included in a multiple regression model to predict employer attitudes. The model was statistically significant, $F(11, 367) = 15.69, p < .0001, R^2 = .32$. Including the two variables that were highly correlated (communication with VR and having hired someone who is blind or visually impaired) in the model resulted in multicollinearity, although the variance inflation factor did not indicate a major problem with the variables (VIF values of 1.99 and 2.09 respectively). In the multiple regression model, having hired was a significant predictor that explained a large amount of unique variance, while communication with VR was not significant and it explained essentially no unique variance.

These results are indicative of having hired acting as a mediator of the relationship between communication with VR and employer attitudes. To test this, Baron and Kenny's four steps to test mediation were followed (Kenny, 2016) and results indicated that having hired partially mediates the causal relationship between communication with VR and employer attitudes. A Sobel test was also run (Jose, 2013), again indicating a significant mediation effect ($z\text{-value} = 6.13, p < .0001$), with an indirect to total effect ratio of .738. (Of course even with this evidence, a causal relationship cannot be proven for the variables.) Other variables that were significantly associated with employer attitudes in the model were knowledge, belief in knowledge, having an ongoing relationship with VR, and being female. See Table 3 for complete results.

Discussion

The hypothesis being investigated was only partially supported: although having hired and knowledge significantly predicted employer attitudes, communication with a state VR agency did not. Having hired acted as a mediator between communication with VR and employer attitudes, and most of the relationship between the two variables was explained by having hired. These results are indicative of a relationship such that communication with VR influences hiring someone who is blind or visually impaired, which in turn influences employer attitudes towards people who are blind or visually impaired as employees. Causality can only be hypothesized, but the statistical results support this type of relationship. Although communication with VR did not predict employer attitudes in the multivariate model, the results support the importance of communication with VR from the perspective of its very close association with having hired. Few hiring managers who had not communicated with their VR agency had hired someone who is blind or visually impaired (only 22, or 9.3%, had).

Having hired someone in the past was clearly the strongest predictor of current employer attitudes. Other important predictors were knowledge about how blind or visually impaired people perform work tasks and also a belief in knowledge in this area, which each explained a similar amount of unique variance. Belief in knowledge can be conceptualized as the person's confidence that there is a way for blind or visually impaired people to perform the task. Those who had hired someone in the past were more likely to have a belief in their knowledge, but were not necessarily more likely to have accurate knowledge of how blind or visually impaired people perform work tasks. That belief in knowledge is associated with attitudes is an important and positive finding, because although employers may have exposure to how people with visual impairments perform work tasks, their knowledge may be partial, superficial, or forgotten over

time. The understanding that there is a way for the tasks to be performed may be more likely to be retained than the exact knowledge of how the tasks can be performed.

The other two significant predictors of employer attitudes were having an ongoing relationship with VR and being female. A large majority (87.5%) of those who reported an ongoing relationship with VR that included talking about people who are blind or visually impaired had hired someone in the past. Despite the strong association between these variables, having an ongoing relationship explained additional variance in employer attitudes. Continued contact over time with a VR professional creates additional opportunities to influence an employer's attitudes, and perhaps the availability of a VR professional to provide assistance, if needed, negates some employer concerns about employing people who are blind or visually impaired. Continued contact over time may also contribute to a more trusting relationship in which the employer develops confidence in the VR agency and its staff. These results provide evidence for the importance of VR agencies utilizing the dual customer approach and treating businesses as customers of the agency. Although gender did not have any relationship with employer attitudes, when included in the regression model, females in hiring positions had significantly more positive attitudes. Females tend to have more positive attitudes towards people with disabilities in general (Goreczny et al., 2011; Hergenrather & Rhodes, 2007; Tervo et al., 2002), but this is the first study to document this association with employers.

Although previous research has found that exposure to people with disabilities results in a more positive attitude by employers (Hernandez et al., 2000; Ju et al., 2013; Unger, 2002), this finding was not supported for workers who are blind or visually impaired, unless the contact was associated with a hiring decision. Neither having a personal relationship with nor having worked with (without making the decision to hire) someone who is blind or visually impaired was

associated with attitudes. Incidence of visual impairment increases significantly with age, so the personal exposure these respondents had to blindness may have been with a person experiencing vision loss later in life. Consequently, personal exposure to a person with a visual impairment may be associated with aging and retirement rather than with employment activities. It is interesting to note that having a personal relationship with someone who is blind or visually impaired was moderately associated with communication with VR ($r = .32$). This personal exposure may sensitize employers to issues concerning vision loss and increase their receptiveness to communication with VR agencies.

It is not clear why working directly with a person who is blind or visually impaired was not associated with more positive employer attitudes, although in this study most of the employers who reported working directly with someone also reported having hired someone. For the regression model, we looked at the effect of working with someone *without* making that hiring decision, and found no relationship. Potentially, those who only worked with an employee who is blind or visually impaired did not have a choice in the hiring decision. We can assume that those who make a decision to hire someone have a certain level of comfort with the idea of a blind or visually impaired employee, but potentially those employers who do not make the hiring decision are less comfortable with a blind or visually impaired employee. It is important to emphasize that employers who worked with, but did not hire, the employee did not have more negative attitudes; this factor was simply not related to attitudes.

Similarities and Differences between Current and Previous Study

As in the previous study, having hired someone in the past was the most important predictor of employer attitudes towards blind or visually impaired people as employees. Knowledge was also a significant predictor in both studies. However, the unique contribution of

the variables was different in the current study: having hired explained a larger amount of unique variance, and knowledge explained a smaller amount of unique variance. A notable difference between the studies is that communication with VR was not a significant predictor in the current study, essentially explaining no unique variance in the model. Having hired mediated the relationship between communication with VR and employer attitudes, which may also have occurred in the previous model, but the mediation effect was much more pronounced in this model. In the current study, the relationship between communication with VR and hiring was very strong; in the previous study the association was smaller, allowing communication with VR to represent more unique variance in the previous model.

Other similarities between the current and previous study are that exposure to people who are blind or visually impaired, in terms of having worked with or having a personal relationship with, were not significant predictors in either multivariate model. Being an HR professional was also not related to employer attitudes in either model. Another difference was the inclusion of five new variables in the current model, three of which were significant predictors. Note that when the model was run without these new variables (to exactly match the original model), results in terms of significance and non-significance of variables remained the same. A final difference was the magnitude of the relationships between the three primary predictor variables. In the previous study, they all had significant, moderate to strong associations. In the current study, communication with VR was strongly associated with having hired, but knowledge was minimally associated with either variable.

Limitations

Several limitations associated with the previous study have been addressed in this study, including additional information collected about extent of the relationship with VR and basic

participant demographic information, all of which were added to the regression model. It was also documented that socially desirable responding does not appear to be a large issue with the data collected in this online survey (see McDonnall, 2016). Several limitations still exist for this study, primarily resulting from the use of an online survey to collect data. Self-selection bias is always an issue with volunteers who can decide whether or not to complete a survey. Although we had respondents from across the country, our sample is not nationally representative, and we had a high percentage of employers who have hired someone who is blind or visually impaired. Undoubtedly employers who had experience with this population were more likely to respond to the invitation to participate provided by SM Audience. Another limitation of survey data is the inability to determine the accuracy of responses; participants may unintentionally or intentionally provide incorrect data. We attempted to address this issue by removing data from respondents who provided nonsensical answers to open-ended items, answered a screener question incorrectly, or who took a short time to complete the entire survey.

Implications

Although communication with a state VR agency did not predict more positive employer attitudes in the multiple regression model, its potential impact on consumer employment outcomes should not be disregarded. Rather, because communication may influence hiring a person who is blind or visually impaired, efforts to improve and support communication between VR agencies and employers should be continued. A clear implication of these findings is that VR professionals should interact with employers as much as possible. These initial interactions are a step in the process of cultivating ongoing relationships between employers and state VR agencies.

Our results indicate that a relatively high percentage of employers had communicated with VR, but a much lower percentage had an ongoing relationship. As ongoing relationships with state VR agencies contribute to positive employer attitudes, efforts to expand interactions with employers to developing relationships and maintaining existing employer relationships are recommended. Building such relationships starts with communication, and one method VR staff can use to initiate communications with employers is providing information about how blind and visually impaired people can perform work tasks, realizing the level of detail in those communications may not be as important as establishing that relationship. Although it is important for VR staff to increase employers' knowledge about blind or visually impaired employees, they should keep in mind that providing extensive details about job accommodations to employers may not be necessary to influence their attitudes. Although accurate knowledge is important, instilling employers with the belief that accommodations are available and can be obtained may be enough to move an attitude in a more positive direction. This is particularly true if that belief includes confidence that the VR professional will provide ongoing support and assistance.

Developing a positive relationship typically requires trust between the parties in that relationship, and employers need some level of trust in either the VR professional or the VR agency. In order for the relationship to progress and for the employer to build trust in the relationship, the VR staff must be dependable. This would include recognizing that when there is turnover among VR staff, efforts to sustain existing employer relationships should be a priority (McDonnall & Crudden, 2015). Although turnover among HR and direct line supervisors may be regarded as a challenge by VR agencies, this turnover can be reframed in a more positive light. When HR or direct line supervisors change employers, VR agencies can maintain that contact as

the person moves to another company. Further, the VR agency can attempt to cultivate a relationship with another person at the original job site, thus capitalizing on the established relationship with the original company. Relationships with employers take time and effort on the part of VR professionals; for the dual customer approach to be effective, continuation of services to these employer customers is as important as continuation of services to consumers with disabilities.

Note

¹ Once the targeted number of responses in each company size category was obtained (most within a few days), potential respondents no longer had the opportunity to participate. This truncates the response rate from what it may have been if participants were provided more time to provide a response.

References

- Barnow, B.S. (2008). The employment rate of people with disabilities. *Monthly Labor Review*, 131(11), 44-50
- Bendick, M., & Nunes, A. P. (2012). Developing the research basis for controlling bias in hiring. *Journal of Social Issues*, 68(2). 238-262.
- Bruyere, S. M., Erickson, W. A., & VanLooy, S. A. (2006). The impact of business size on employer AD response. *Rehabilitation Counseling Bulletin*, 49(4), 194-206.
- Bureau of Labor Statistics. (2016). [Unpublished data tables of specific disability questions in the Current Population Survey, 2015 Annual Averages]. Washington, DC: Author.
- Burke, J., Bezyak, J., Fraser, R. T., Pete, J., Ditechman, N. & Chan, F. (2013). Employers' attitudes towards hiring and retaining people with disabilities: A review of the literature. *Australian Journal of Rehabilitation Counseling*, 19(1), 21-38.
- Burkhauser, R.V. and Stapleton, D.C. (2004). The decline in the employment rate for people with disabilities: Bad data, bad health, or bad policy? *Journal of Vocational Rehabilitation*, 20(3), 185-201.
- Chan, F., Strauser, D., Maher, P., Lee, E-J., Jones, R. & Johnson, E. T. (2010). Demand-side factors related to employment of people with disabilities: A survey of employers in the Midwest region of the United States. *Journal of Occupational Rehabilitation*, 20, 412-419.
- Chen, R. K., Blankenship, C. J., Austin, B. S., Cantu, V.C., & Kotbungkair, W. (2016). Hiring of people with disabilities: Perceptions of Hispanic small business owners. *Journal of Vocational Rehabilitation*, 45(2), 185-196.

- Crudden, A., Williams, W., McBroom, L. W., & Moore, J. E. (2002). *Consumer and employer strategies for overcoming employment barriers*. National Research & Training Center on Blindness & Low Vision, Mississippi State University. Retrieved from: <http://www.blind.msstate.edu/research/nrtc-publications/download/>
- Dixon, K. A., Kruse, D., & Van Horn, D. E. (2003). *Restricted access: A survey of employers about people with disabilities and lowering barriers to work*. Heldrick Work Trends Survey, v3.6. Rutgers University, New Brunswick, NJ.
- Donzal, C., Houtenville, A., & Sharma, R. (2008). *Survey of employer perspectives on the employment of people with disabilities: Technical Report*. (prepared under contract to the Office of Disability and Employment Policy, U. S. Department of Labor). McLean, VA: CESSI. Retrieved from: https://www.dol.gov/odep/documents/survey_report_jan_09.doc
- Eagly, A. H., & Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social cognition, 25*(5), 582-602.
- Fishbein, M. & Ajzen I. (1975). Principles of change. In *Belief, attitude, intention, and behavior: An introduction to theory and research* (pp. 387-410). Retrieved from <http://people.umass.edu/aizen/f&a1975.html>
- Fuqua, D. R., Rathbun, M., & Gade, E., M. (1983). A comparison of employer attitudes toward the worker problems of eight types of disabled workers. *Journal of Applied Rehabilitation Counseling, 15*, 40-43.
- Gilbride, D., Stensrud, R., Ehlers, C., Evans, E., & Peterson, C. (2000). Employers' attitudes toward hiring persons with disabilities and vocational rehabilitation services. *Journal of Rehabilitation, 66*(4), 17-23.

- Goreczny, A. J., Bender, E. E., Caruso, G., & Feinstein, C. S. (2011). Attitudes toward individuals with disabilities: Results of a recent survey and implications of those results. *Research in Developmental Disabilities, 32*, 1596-1609.
- Hergenrather, K. & Rhodes, S. (2007). Exploring undergraduate student attitudes toward persons with disabilities: Application of the disability social relationship scale. *Rehabilitation Counseling Bulletin, 50*(2), 66-75.
- 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*, 4-16.
- Hilgard, E.R. (1980). The trilogy of mind: Cognition, affection, and conation. *Journal of the History of the Behavioral Sciences, 16*(2), 107-117.
- Hunt, C.S. & Hunt, B. (2004). Changing attitudes toward people with disabilities: Experimenting with an educational intervention. *Journal of Managerial Issues, 16*(2), 266-280.
- Inglis, C. (2006). *Blind people can do anything but not in my company: Employer attitudes towards employing blind and vision impaired people* (Unpublished master's thesis). Massey University, Albany, New Zealand.
- Jose, P. E. (2013). MedGraph-I: A programme to graphically depict mediation among three variables: The internet version, version 3.0. Victoria University of Wellington, Wellington, New Zealand. Retrieved from <http://pavlov.psyc.vuw.ac.nz/paul-jose/medgraph/>
- Ju, S., Roberts, E., & Zhang, D. (2013). Employer attitudes towards workers with disabilities: A review of research in the past decade. *Journal of Vocational Rehabilitation, 38*, 113-123.

- Kaye, H. S. (2010). The impact of the 2007-09 recession on workers with disabilities. *Monthly Labor Review*, 133, 19-30.
- Kenny, D. A. (2016, May 22). Mediation. Retrieved from <http://davidakenny.net/cm/mediate.htm>
- Kirchner, C., Johnson, G., & Harkins, D. (1977). Research to improve vocational rehabilitation: Employment barriers and strategies for clients who are blind or visually impaired. *Journal of Visual Impairment & Blindness*, 91, 377-392.
- Livemore, G.A., Honeycutt, T.C. (2015). Employment and Economic Well-Being of People With and Without Disabilities Before and After the Great Recession. *Journal of Disability Policy Studies*, 26, 70-79. doi: 10.1177/1044207315583875
- Luecking, R. G. (2008). Emerging employer views of people with disabilities and the future of job development. *Journal of Vocational Rehabilitation*, 29, 3-13.
- McDonnall, M. C. (2014). Employer attitudes towards blind or visually impaired employees: Initial development of a measurement instrument. *Rehabilitation Counseling Bulletin*, 58, 29-36.
- McDonnall, M. C. & Crudden, A. (2015). Building relationships with businesses: Recommendations from employers concerning persons who are blind/visually impaired. *Journal of Rehabilitation*, 81(3), 43-50.
- McDonnall, M. C., Crudden, A., & O'Mally, J. (2015). Predictors of employer attitudes toward people who are blind or visually impaired as employees. *Journal of Vocational Rehabilitation*, 42, 41-50.

- 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.
- McDonnall, M. C. (2016). Additional evidence for the validity of the Employer Attitudes toward Blind Employees Scale. *Rehabilitation Counseling Bulletin*. Advance online publication. doi: 10.1177/0034355216642598
- Tervo, R. C., Azuma, S., Palmer, G., & Redinius, P. (2002). Medical students' attitudes toward persons with disability: A comparative study. *Archives of Physical Medicine and Rehabilitation, 86*(11), 1537-1542.
- Unger, D. (2002). Employers' attitudes toward persons with disabilities in the workforces: Myths or realities? *Focus on Autism and Other Developmental Disabilities, 17*(1), 2-10.
- Unger, D. & Kregel, J. (2003). Employers' knowledge and utilization of accommodations. *Work, 21*, 5 – 15.
- Williams, C. A. (1972). Is hiring the handicapped good business? *Journal of Rehabilitation, 38*, 30-34.

Table 1

Sample Demographics and Company Size

Variable	Percent	Frequency
Gender (Female)	58.6	222
Age		
18 to 34	23.0	87
35 to 44	28.8	109
45 to 54	27.7	105
55 or older	20.6	78
Education level		
High school or less	8.7	33
Some college/two-year degree	27.4	104
Bachelor's degree	41.2	156
Graduate degree	22.7	86
Income level		
Less than \$25,000	3.2	12
\$25,000 to \$49,999	15.3	58
\$50,000 to \$74,999	23.2	88
\$75,000 to \$99,999	23.2	88
\$100,000 or more	35.1	133
Region		
Northeast	19.3	73
Midwest	23.0	87
South	36.7	139
West	21.1	80
Job title		
Managers/Supervisors	62.8	238
Directors/Chief executives	15.8	60
Human resources personnel	10.3	39
Owners	7.9	30
Other	3.2	12
Company size (number of employees) ^b		
1 to 14	5.0	19
15 to 99	33.5	127
100 to 499	20.8	79
500 to 1,999	22.2	84
2,000 or more	18.5	70

N=379

Table 2

Means and Correlations among Model Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Employer attitudes	34.03	13.49											
2. Gender (female)	0.59	0.49	.04										
3. High income	0.35	0.48	.11	-.10									
4. College	0.64	0.48	.12	-.16	.22								
5. Knowledge	0.25	0.60	.23	<.01	.07	.07							
6. Belief in knowledge	1.16	1.42	.27	-.01	.03	.03	.09						
7. Communication with VR	0.38	0.49	.34	-.03	.05	.08	.10	.11					
8. Relationship with VR	0.08	0.28	.30	-.03	.07	.09	.10	.11	.39				
9. Have hired	0.33	0.47	.45	-.08	.06	.04	.08	.21	.64	.35			
10. Worked with only	0.18	0.39	-.05	.01	-.09	-.03	.06	-.06	-.08	-.07	-.33		
11. Personal relationship	0.56	0.50	.21	-.04	-.02	.02	.08	.22	.32	.15	.20	.14	
12. HR personnel	0.10	0.30	.14	.07	.01	.09	.04	-.03	.18	.05	.13	.02	.04

Note: All r values above $|.10|$ are significant at $.05$.

Table 3

Predictors of Employer Attitudes

Variable	<i>B</i>	<i>SE</i>	β	Unique Contribution
Female	2.47	1.21	.09*	.008
High income	1.88	1.26	.07	.004
College	2.09	1.27	.07	.005
Knowledge	4.61	1.31	.15*	.023
Belief in knowledge	1.47	0.43	.16*	.022
Communication with VR	-0.25	1.68	-.01	< .001
Relationship with VR	5.67	2.30	.12*	.011
Have hired	10.81	1.79	.38*	.068
Worked with only	2.57	1.67	.07	.004
Personal relationship	1.83	1.28	.07	.004
HR personnel	2.90	1.96	.07	.004
R^2		.32		
F		15.69*		

* $p < .05$.