

An exploratory factor analysis: Factors influencing employers' disposition to hire and retain persons with disabilities

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Revised/Accepted July 2019

Abstract.

BACKGROUND: There is a significant disparity in employment rates for persons with disabilities when compared to persons without disabilities. Understanding factors that influence employers' disposition to hire and retain persons with disabilities is the first step in developing an educational intervention plan that is conducive to employers being more receptive to hiring persons with disabilities.

OBJECTIVE: The purpose of this study is to survey and explore factors that influence employer's disposition to hire and retain persons with disabilities and devise a scale that goes beyond attitudes.

METHODS: To assess the factor structure and internal consistency of the new scale an exploratory factor analysis was performed on the survey response items to establish reliability and validity. Data was collected from employers located in Cameron and Hidalgo counties located in the Border Region of South Texas (N = 190).

RESULTS: The results from the exploratory factor analysis provided a four-factor solution with 16 items. The factors were labeled *Fears and Concerns*, *Employers Resources for Persons with Disabilities*, *ADA Competence*, and *Knowledge of Disability*. The scale demonstrated overall internal consistency of .709.

CONCLUSIONS: The discussion focuses on utility of the scale, recommendations for future research and limitations for the study.

Keywords: Exploratory factor analysis, scale development, hiring and retention of persons with disabilities, border regions of South Texas, employer attitudes, job placement services.

1. Introduction

The ADA Amendments Act of 2008 (ADAAA) came into effect on January 1, 2009. This law changed the definition of disability under the ADA making it easier to establish that an individual has a disability. The U.S. Equal Employment Opportunity Commission (EEOC) was directed to amend their

ADA regulations for consistency with the ADAAA (Fact Sheet ADAAA, n.d.). Employers will need to exercise caution before making a final determination regarding employees and applicants with physical or mental impairments as a result of the broader definition of disability of the ADA Amendments Act (Dwoskin & Squire, 2013). Employers' attitudes and predispositions are crucial to the effect of ADAAA in employment settings. The ADAAA will increase the disability issues in employment settings if employers do not exercise a collaborative, proactive and accommodating attitude that is in harmony with the reformed ADA to avoid lawsuits that can be costly

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and they are less likely to win (Bradbury & Jacobson, 2013).

Most discrimination claims under ADA are related to employment retention and advancement opportunities not with hiring (McMahon et al., 2008; Rumrill Jr., Fitzgerald, & McMahon, 2010). Knowledge of accommodations, ability to identify supports and having the authority to provide accommodations are factors that can impact employment retention and advancement of persons with disabilities (Bruyere et al., 2006; Unger & Kregel, 2003). Relatedly, Solovieva, Dowler, and Walls (2011), explored employer benefits of providing accommodations to persons with disabilities. The noted benefits consist of employee retention, increased productivity, minimizing expenses related to training a new employee and increased attendance (Gold, Oire, Fabian, & Wewiorski, 2012; Schartz, Hendricks, & Blanck, 2006; Solovieva, Dowler, & Walls, 2011). Most accommodations are related to employees work areas consisting of equipment and workstations followed by modifications to work schedules (Solovieva, Dowler, & Walls, 2011; Unger & Kregel, 2003). Copeland et al. (2010), found that “positive attitudes toward accommodations and equal treatment of people with disabilities also leads to a stronger belief about reasonableness of accommodations in the workplace” (Copeland et al., 2010, p. 432).

Employer’s perspective of persons with disabilities ability to perform the job tasks is one of the main factors in their decision to hire (Simonsen, Luecking & Fabian, 2015). The disability is not the main concern for employers with experience in hiring persons with disabilities, once persons with disabilities are hired performance becomes the focus (Gilbride, Stensrud, Vadergoot & Golden, 2003); Luecking, 2008). Interestingly, Hernandez and McDonald (2010), found that when comparing employees with and without disabilities on job performance there were no statistically significant differences. Although, some employers perceived persons with disabilities as unable to meet the performance standards, they value the commitment, loyalty and reliability they bring to employment (Fraser et al., 2010; Groschl, 2012; Irvine & Lupart, 2008).

The quality of previous interactions seems to predict whether an employer will have a positive or negative attitude towards persons with intellectual disabilities (McManus, Feyes, & Saucier, 2010). Managers concerns about hiring persons with disabilities are associated with negative experiences and or

lack of experience with employees that have a disability (Hernandez et al., 2008). Conversely, positive employer attitude result from a positive experience with employees with disabilities in the workforce (Gilbride, Stensrud, Ehlers, Evans, & Peterson, 2000; Hernandez, Keys, & Balcazar, 2000). Similarly, other studies found that employers with previous experience in working with persons with disabilities have a more positive outlook of persons with disabilities and are more likely to hire this population (Copeland, Chan, Bezyak, & Fraser, 2010; Gilbride et al., 2000; Hernandez, Keys, & Balcazar, 2004; Luecking, 2003; Unger, 2002).

The rate of unemployment for Americans with disabilities remains higher than compared to the non-disabled population (Bruyere et al., 2006). According to the Bureau of Labor Statistics (2017), in 2016, 17.9% of persons with disabilities were employed compared to 65.3% of persons without disabilities. Those with higher education are more likely to be employed among both groups; however, persons with disabilities were still less likely to be employed than those without disabilities across all age groups and educational levels (Bureau of Labor Statistics, 2017). Despite various efforts to introduce disability policy and legislation to enhance employment for persons with disabilities, these large disparities continue (Bruyere, 2000, Hotchkiss, 2004).

Among the border region of South Texas, the most recent statistics for the Census Bureau of 2016 indicated that 66.9% of the population (835,097) was comprised of individuals ages 18 and older who are considered to participate in employment in this area. The Census indicates that of approximately 450,000 employed individuals, 5.24% or 23,576 identify as having a disability compared to the remaining approximate 95% of workers who do not. Of those persons with disabilities who are employed, approximately 8% report that employment to be part-time (US Census Bureau, 2016).

Previous research has focused on different areas related to attitudes towards hiring persons with disabilities from different perspectives. Employers continue to voice concerns regarding hiring and retaining persons with disabilities (Hartnett et al., 2011; Lengnick-Hall et al., 2008), despite the laws that prohibit employment discrimination (Hernandez et al., 2008). Researchers suggest there are various reasons and misconceptions that employers continue to hold regarding their disposition to hire and retain persons with disabilities that go beyond employer attitudes. Some of the most prevalent fears and

misconceptions employers perceive include, (a) fears associated with hiring and retention of persons with disabilities related to the unknown cost of accommodations (Houtenville & Kalargyrou, 2012; Kay et al., 2011; Lengnick-Hall et al., 2008; Peck & Kirkbride, 2001), (b) fears associated with supervision and productivity (Henry et al., 2013; Peck & Kirkbride, 2001), (c) concerns associated with losing revenue and litigation (Fraser et al., 2010, 2011; Henry et al., 2013), (d) lack of knowledge regarding the implications of the Americans With Disabilities Act (ADA) (Fraser et al., 2011; Hernandez et al., 2003), and (e) fears associated with negative experiences or lack of experience with employees with disability (Hernandez et al., 2008). McLoughlin (2002) found that most employers continue to lack basic knowledge of various governmental services and financial incentives that are available to assist employers with hiring persons with disabilities.

Although researchers often describe persons with disabilities as a homogeneous group, there are many different types of diagnosed chronic illnesses and disabilities. When this is viewed under the scope of employment, researchers have found that persons with physical disabilities are rated more favorably than persons with mental disabilities (Dalgin & Bellini, 2008; Gouvier, Sytsma-Jordan, & Mayville, 2003; Ren et al., 2008), and thus have a higher probability of being hired (Gouvier et al., 2003). Lack of knowledge regarding the capabilities and employment potential of persons with disabilities and how to address the needs of persons with disabilities can also contribute to employers' disposition to hire and/or retain persons with disabilities (Houtenville & Kalargyrou, 2012; Kay et al., 2011).

Hernandez et al. (2000) and more recently Ju et al. (2013) conducted comprehensive literature reviews encompassing 1987- 2012 of employer attitudes towards workers with disabilities and their ADA employment rights. Authors noted numerous limitations regarding the reliability and validity of assessment measures in their review. Antonak and Livneh (1988) in their book *The Measurement of Attitudes toward People with Disabilities* book note the numerous problems with the reliability and validity of dozens of attitude scales. The literature review performed for this study consists of studies that have focused on employer attitudes from different perspectives and thus the focus varies depending on the area of interest of the researchers. In summary, barriers to employment of persons with disabilities result from misconceptions regarding the capabilities and

employability potential of persons with disabilities and fears and concerns associated with laws that are in favor of hiring persons with disabilities.

In addition, research indicates that barriers to employment of persons with disabilities stem from lack of knowledge of ADA (Fraser et al., 2011; Hernandez et al., 2003), resources and incentives available to assist employers with facilitating employment opportunities for persons with disabilities (Fraser et al., 2010; JAN Web Team, 2015; McLoughlin, 2002) as well as an understanding of the implications of disability, both physical and mental in terms of employment potential (Houtenville & Kalargyrou, 2012; Kay et al., 2011). In order to address the aforementioned misconceptions, fears, lack of knowledge and overall associated hesitance to hire and retain persons with disabilities there is a need to develop an intervention plan that will dissipate these barriers to employment for persons with disabilities. Hiring managers need to be educated regarding the misconceptions of employing persons with disabilities in order to reduce barriers to hiring persons with disabilities (Kulkarni & Lengnick-Hall, 2013). The level of manager commitment to employing persons with disabilities has been found to be consistent with the level of knowledge about the ADA and accommodations (Chan et al., 2010; Hernandez, Keys, & Balcazar, 2004; Hernandez et al., 2008). Hunt and Hunt (2004) studied the impact of educational intervention in changing attitudes toward persons with disabilities. They found that an educational intervention program significantly impacted participant's knowledge and attitudes in relation to persons with disabilities. To accomplish this goal, a scale that highlights constructs/factors that contribute to employers' disposition to hire and retain persons with disabilities is necessary.

The purpose of this study was to develop a survey instrument that assessed factors that influence employers' disposition to hire and retain persons with disabilities. The original survey instrument consisted of 30 items that were intended to capture a holistic inclusion of the areas that may have an impact on employers' disposition to hire and retain persons with disabilities. Specifically, the survey instrument included items associated with fears and concerns, knowledge of disability, benefits of hiring persons with disabilities, knowledge of ADA, perceived benefits of accommodations, experience with persons with disabilities and knowledge about resources. Since this is a new survey instrument, reliability and validity have not been established. To achieve this goal, an

exploratory factor analysis was performed on the 30 item survey responses to assess reliability and validity. Accordingly, this exploratory study focused upon the following research questions:

RQ1: Do the items in the instrument account for a significant amount of variance?

RQ2: Which, if any of the items in the instrument help identify factors associated with employers' fears and concerns related to hiring persons with disabilities?

RQ3: Which, if any of the items in the instrument help identify factors associated with knowledge of ADA and government resources that influence employers' disposition to hire and retain persons with disabilities?

RQ4: Which, if any of the items in the instrument help identify factors associated with knowledge of disability types?

2. Methodology

2.1. Participants

A purposive sampling method was utilized for this research. Participants for this research were individuals directly in charge of hiring and were recruited from employers/businesses from the South Texas border region. This population is estimated to be 90% Hispanic origin (U.S. Census Bureau, 2016). In addition, participants were required to be 18 years of age or older and be a U.S. Citizen or Legal Permanent Resident. Employers of all ethnic groups and industries were considered. Moreover, participants consisted of 64.7% females, 81.1% were Hispanics, 47.9% had at least a bachelor education, 54.7% had an educational background related to business, 58.9% were employed in the sales industry and 69.5% were managers or Supervisors. See Table 1 for detailed demographics of participants.

2.2. Instruments

The questionnaire for this study was developed by the first author based on an extensive review of the literature. Since reliability and validity were not established, three experts in the rehabilitation counseling field who are tenured professors that have an excellent and extensive history of teaching, researching and publishing articles and books directly related to employment of persons with disabilities were

Table 1
Participant demographics

Identified Demographic	n	%
Gender		
Male	65	34.2
Female	123	64.7
Ethnicity		
Caucasian	29	15.3
Hispanic	154	81.1
Other	5	2.6
Highest Education Completed		
High School Diploma or Less	51	26.8
Associates Degree or Some College	46	24.2
Bachelor or higher education	91	47.9
Educational Background field		
Business	104	54.7
Counseling-Education-Health	51	26.8
Other	31	16.3
Industry Type		
Service	63	33.2
Sales	112	58.9
Other	13	6.8
Current Position		
Owner	32	16.8
Manager/Supervisor	132	69.5
HR Representative	12	6.3
Other	13	6.8

Note: The percentages are based on the total sample (N=190), not the corresponding number of respondents for each item. Age, years employed in current position and size of company are not included in this table.

consulted to review and suggest changes to the questionnaire for content validation. To further validate the questionnaire, a factor analysis was performed.

This questionnaire included demographic questions consisting of gender, age, ethnicity, current position, years employed in current position, industry type, size of company (number of employees), highest education completed and education background (education discipline). In addition, 30 items related to factors that contribute to employer's disposition to hire and retain persons with disabilities were developed based on the literature. Questions included in the survey related to employer fears and concerns, knowledge about disability, benefits of hiring persons with disabilities, knowledge of the ADA, perceived benefits of accommodations, experience with persons with disabilities (positive or negative), willingness to hire persons with disabilities and knowledge about resources related to employment of persons with disabilities. Response formats include a four-point Likert scale from strongly agree to strongly disagree (no neutral middle number), and dichotomous responses poor/good and true/false.

2.3. Procedure

Subsequent to Internal Review Board (IRB) approval, participants were recruited by the first author through various means. This included solicitation by email with a link to a Qualtrics survey, visiting employers personally and providing a hard copy of the survey, and disseminating the survey through social media forms (LinkedIn and Facebook). Emails and addresses of employers were obtained via Google searches in the Texas border counties of Hidalgo and Cameron counties and included schools, hospitals, and other local businesses. An informed consent was provided.

A total of 2,142 business emails were obtained and from this initial solicitation and 209 responses were obtained. From this group, 19 of the email responses were not completed and therefore those surveys were eliminated, resulting in 190 valid responses or a 4.6% response rate. In-person employer visitations drew 110 (52.6%) responses and 99 (47.3%) were obtained via email. All hard copy and email responses were secured confidentially by the first author.

2.4. Data analysis

A factor analysis was used to test the research questions and related hypothesis and assess the factor structure and internal consistency of the scale for factors that contribute to employers' disposition to hire and retain persons with disabilities. Descriptive statistics were used to analyze demographics. Descriptive statistics included the mean, standard deviation and frequency of responses for the demographic continuous variables. All analyses were computed using the Statistical Package for the Social Science (SPSS) software version 25.

Exploratory factor analysis is a data reduction technique that is included in SPSS (Pallant, 2013). Factor analysis is used to reduce a large set of variables to groups of related variables called factors, the goal is parsimony (Huck, 2014; Warner, 2013). Factor analysis is a statistical procedure that is used for the development and evaluation of instruments (Huck, 2014; Pallant, 2013; Warner, 2013). This statistical procedure facilitates the classification of items into the corresponding subscale of an instrument and the identification of items that are not in harmony with any factor and thus should be deleted (Huck, 2014; Warner, 2013). To determine that the data are suitable for factor analysis, the sample size should be 150 or greater (Hinkin, 1995; Pallant, 2013), and min-

imally five cases for each variable (Pallant, 2013). The response rate of 190 valid responses obtained for this research satisfies the sample size requirement. In addition, the correlation matrix should demonstrate correlations of $r = .3$ or greater, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy should be .6 or above and Bartlett's chi-square test of sphericity should be statistically significant at $p < .05$ (Pallant, 2013). Once the factorability of the survey items is established, the researcher proceeds with factor extraction. Factor extraction is the process of identifying the underlying factors that will represent the subcategories/subscales of the scale. There are several extraction methods used in EFA, principal components analysis (PCA) is one of the most commonly used (Hinkin, 1995; Huck, 2014; Pallant, 2013) and most appropriate for data reduction (Fabrigar et al., 1999).

3. Results

The percentages are based on the total sample ($N = 190$), not the corresponding number of respondents. The sample was comprised of 65 (34.2%) males and 123 (64.7%) females. The participants' ages ranged from 19 to 76 years ($M = 40.91$, $SD = 14.054$). The majority of respondents, 154 (81.1%) identified as Hispanic, 29 (15.3%) identified as Caucasian, one respondent identified as African American or Black one respondent identified as Asian or Pacific Islander (.5%), and three reported Other (1.6%). Due to low response rate for African American, Asian, and Other respondents, these categories were collapsed to reflect Other.

Highest education completed was 1.6% less than a high school diploma ($n = 3$), 25.3% high school diploma/GED ($n = 48$), 17.9% associates degree ($n = 34$), 31.6% bachelor's degree ($n = 60$), 13.2% master's degree ($n = 25$), 2.6% PhD/doctorate ($n = 5$) and 6.8% other ($n = 13$). Other was mostly some college but no degree. Due to low response rate for the less than high school diploma, PhD/Doctorate and Other category, the researcher collapsed these three categories into High School Diploma or less, Associates Degree or Some College and Bachelor or higher, which included masters and PhD/doctorate level education. Collapsing the highest education variables resulted in three categories.

The educational background field reported was 54.7% business ($n = 104$), 3.7% counseling ($n = 7$), 2.1% engineering ($n = 4$), 14.7% education/academia

($n=28$), 8.4% health ($n=16$), and 14.2% other ($n=27$). Due to low responses for participants who indicated an educational background in the counseling and engineering field, the researcher collapsed the variables into three categories: counseling, education and health fields in one category as they all relate to humanities. The engineering category, which had a low response rate was collapsed with the Other classification. Refer to table 1 participant demographics.

The current employment position for participants was, 16.8% owners ($n=32$), 69.5% manager/supervisor ($n=132$), 6.3% HR representative ($n=12$) and 6.8% other ($n=13$). Years employed in current position ranged from one to 37 years ($M=7.49$, $SD=7.54$). The majority of participants indicated the industry type they were employed in was sales ($n=112$, 58.9%). Participants employed in the lodging industry were 3.2% ($n=6$), in food service .5% ($n=1$), in amusement/recreation 1.1% ($n=2$), in production 2.1% ($n=4$), and other 33.2% ($n=63$). The majority of those who selected Other pertain to the service industry. Due to the low response rate for lodging, amusement/recreation and production, these industries were collapsed to Other and the original responses in Other were changed to reflect the service industry based on the fact that the majority of responses pertain to this industry.

The suitability of PCA was determined by conducting the corresponding analyses that assert the assumptions for PCA are satisfied. A preliminary PCA was conducted on the original 30 questions which resulted in the removal of 14 questions for the following reasons: (a) five questions did not meet the desired correlation of .3 or greater and thus were removed because this indicates that these questions are not highly correlated with other questions and likely measure something different (Pallant, 2013); (b) four questions due to cross-loading on other components which indicates that the item measures several factors and were removed; (c) five additional questions were removed, two due to redundancy and three because, although relevant, they did not fit into the remaining items in each component.

A PCA was conducted on the 16 remaining items that measure factors that contribute to employer's disposition to hire and retain persons with disabilities. The correlation matrix indicated that all variables have at least one correlation with another variable greater than $r=.3$, which satisfies the assumption of linearity between all variables (Pallant, 2013). To

further assess the assumption of linearity between variables is met, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was performed. The KMO measure is used to assess if there is a linear relationship between the variables and thus the appropriateness of performing a PCA (Kaiser, 1974). The measures for individual variables are found on the diagonals of the anti-image correlation matrix located in the Anti-image Matrices table. Based on the Anti-Image Correlation Matrices, the measure of sampling adequacy for individual variables ranged from .701 for Q31 to .887 for Q19. Individual KMO measures are all greater than 0.7 classifications of middling to meritorious indicating adequacy of sampling (Kaiser, 1974). All KMO values are above the minimum requirement of .6 (Pallant, 2013). The KMO for the 16 remaining items yielded a measure of .806 which is meritorious on Kaiser's (1974) classification of measure values.

Bartlett's test of sphericity assesses if there are correlations between variables, a necessary condition to perform a PCA. A significant p -value supports the assumption of sphericity (Rovai et al., 2013). Bartlett's test of sphericity was statistically significant at the ($p<.0005$), supporting the factorability of the correlation matrix (Pallant, 2013; Rovai et al., 2013).

Once the factorability of the survey items was established the researcher proceeded to perform factor extraction. After performing the PCA to determine how many components to retain, the researcher used Kaiser's criterion by analyzing the Total Variance Explained table that was computed when performing the PCA. Kaiser's criterion indicates that factors that have an eigenvalue of one or more should be retained. The eigenvalue of a factor indicates the total variance explained by that factor (Huck, 2014; Pallant, 2013; Warner, 2013). Principal components analysis revealed the presence of four components with eigenvalues exceeding one explaining 30.6%, 19.9%, 9.9%, and 6.6% of the variance respectively and 66.9% of the total variance. According to Warner (2013), a range of 40% to 70% of variance explained is considered adequate.

To further assess what factors to retain the researcher used Catell's scree test. Only components above the point of inflection are retained (Warner, 2013). Although the point of inflection of the scree plot indicated three components should be retained, the four components solution met the interpretability criterion and thus four components were retained. Factor analysis is a data exploration technique and

Table 2
Rotated component matrix

		Component				Communality
		1	2	3	4	
1-	I fear hiring persons with disabilities will increase health insurance costs.	.853				.740
2-	I fear costs associated with additional training required for an employee with a disability.	.793				.637
3-	I am concerned that excessive absenteeism will result from persons with disabilities frequent needs for doctor visits.	.748				.594
4-	I am concerned about the cost of accommodations.	.743				.568
5-	I am concerned that a person with a disability will require more of my time which will take away from my other responsibilities.	.727				.578
6-	I am concerned that persons with disabilities cannot meet the performance standards of a job.	.682				.522
7-	I fear not being able to discipline a person with a disability because of potential law suits.	.588				.417
8-	Rate your knowledge of internet resources that inform regarding incentives available to employers for hiring persons with disabilities.		.892			.827
9-	and how you can benefit as an employer from the information on this website.		.871			.802
10-	Rate your knowledge of government programs that assist with costs of		.843			.795
11-	How would you rate your knowledge of Title 1 of The Americans with Disabilities Act (ADA)?accommodations.			.886		.889
12-	How would you rate the training you have received regarding implications of Title 1 of The Americans with Disabilities Act (ADA)?			.820		.731
13-	How would you rate your ability to apply the Title 1 of The Americans with Disabilities Act (ADA)?			.816		.777
14-	How would you rate your knowledge about the capabilities of persons with disabilities?				.762	.657
15-	How would you rate your knowledge about mental health disorders (Schizophrenia, Learning Disorders, Bipolar Disorder and Depression)?				.741	.590
16-	How would you rate your knowledge about physical disabilities (Fibromyalgia, Multiple Sclerosis and Spinal Cord Injuries)?				.722	.582

Note. The extraction method used is Principal Component Analysis with Varimax rotation. C1 – Fears and Concerns, C2 – Employers Resources for Persons with Disabilities, C3 – ADA Competence and C4 – Knowledge of Disability.

thus interpretation of the scree plot is based on the researchers’ judgment (Fabrigar et al., 1999; Pallant, 2013; Warner, 2013).

To assist with the interpretation of the factor structure, the factors were rotated using Varimax rotation. Rotated factors simplify and clarify the interpretation of the factor structure of the data (Huck, 2014; Warner, 2013). Varimax rotation is an orthogonal rotation method that is used when factors are uncorrelated (Fabrigar et al., 1999; Huck, 2014; Rovai et al., 2013). Varimax rotation minimizes high loadings on each factor simplifying the interpretation of factors (Rovai et al., 2013; Warner, 2013). The rotated solution indicated simple structure (Rovai et al., 2013; Thurstone, 1947). Due to uncertainty regarding the four components being uncorrelated, the researcher also performed an oblique rotation that allows the

factors to be correlated. The factor structure was identical in both rotation approaches.

The rotated component matrix indicates the factor loadings on each variable and the retained components. Only loadings above .4 are retained, values below .4 are considered low and should be removed from the scale (Clark & Watson, 1995; Hinkin, 1995; Rovai et al., 2013). Communalities indicate how much of the variance is explained in each item explained by all factors (Pallant, 2013; Rovai et al., 2013). Communalities with values lower than .3 are undesirable because this indicates that the item does not belong in the component and should be removed. All communalities on the component matrix indicate values above .4 indicating the items fit well with other items on same component (Pallant, 2013). Component one is labeled ‘Fears and Concerns’, component

two is labeled 'Employer Resources for Persons with Disabilities', component three is labeled 'ADA Competencies', component four is labeled 'Knowledge of Disability'.

A reliability analysis was performed using Cronbach's alpha. Cronbach's alpha is utilized to measure internal consistency. It is used to determine to what extent the items on a scale are measuring the same underlying dimension. A Cronbach's alpha coefficient above .7 indicates adequate reliability (Nunnally, 1978; Pallant, 2013). However, there is research in support of the appropriateness of Cronbach's alpha coefficient being above .6 as was the case for component four labeled as 'Knowledge of Disability' which had an internal consistency of .665 (Hinkle, Wiersma, & Jurs, 2003; Hinton, Brownlow, & McMurray 2014; Rovai et al., 2013). The reliability analysis was performed on the 16-item scale and the four retained components independently. The internal consistency for the 16-item scale yielded a .709.

Results indicate that the instrument items account for a significant amount of variance as evidenced by the resulting four component solution which explains 66.9% of the total variance. According to Warner (2013), a range of 40% to 70% of total variance explained is considered adequate. Factor one "Fears and Concerns" of the scale is comprised of seven items with an internal consistency of .859 and accounted for 30.6% of the variance. Factor two "Employer knowledge of Resources for hiring Persons with Disabilities" consist of three items with an internal consistency of .862 and accounted for 19.9% of the variance. Factor three "ADA Competence" consists of three items with an internal consistency of .881 and accounted for 9.9% of the variance. Factor four consists of three items "Knowledge of Disability" that had an internal consistency of .665 and accounted for 6.6% of the variance of the scale.

4. Discussion

The purpose of this study was to survey and explore factors that influence employers' disposition to hire and retain persons with disabilities and devise a scale that highlights construct/factors that will guide professionals involved directly and indirectly in removing barriers and facilitating employment for persons with disabilities that is reliable and valid. The exploratory factor analysis performed on the 16-item scale provides evidence of the reliability and validity of this newly developed scale. The scale is

unique in that it assesses employer attitudes, knowledge about the ADA, physical and mental disability as well as knowledge of resources and incentives that can influence employers' decision to hire and/or retain employees with disabilities in the same scale.

The four research questions of this study were supported indicating construct validity of a scale that measures factors that contribute to employers' disposition to hire and retain persons with disabilities. The scale is short and practical to utilize. The scale assesses four areas that previous researchers have explored that impact employers' disposition to hire and or retain persons with disabilities. There is a plethora of literature that substantiates the relevance of the four factors/subscales that encompass this scale; employers' fears and concerns (component #1) when hiring persons with disabilities is associated with cost of accommodations (Houtenville & Kalargyrou, 2012; Kay et al., 2011; Peck & Kirkbride, 2001), fear potential law suits (Fraser et al., 2011; Henry et al., 2013), and lack of knowledge on how to address the needs of persons with disabilities (Houtenville & Kalargyrou, 2012; Kay et al., 2011). Similarly, employer knowledge of resources for persons with disabilities (component #2) has been studied (Fraser et al., 2010; JAN Web Team, 2015; McLoughlin, 2002). Americans with Disabilities Act (ADA) competence (Component #3) related to lack of education/knowledge regarding the implications of the ADA when hiring persons with disabilities has also been studied extensively (Fraser et al., 2011; Hernandez et al., 2003). Finally, knowledge of disability (Component #4) has also been studied with results indicating that stereotypes and discrimination vary by disability type (Dalgin & Gilbride, 2003; Dalgin & Bellini, 2008; Gouvier et al., 2003; McCaughey & Strohmer, 2005; Ren et al., 2008; Scheid, 2005).

These subcategories are determinants of employer's willingness to hire and retain persons with disabilities. This instrument can be used by professionals who are directly involved in facilitating employability for persons with disabilities. This instrument can indicate employer's areas of concern and thus serve as a baseline for the development of an educational intervention strategy that will address factors that create barriers to hiring and or retaining persons with disabilities. Hiring managers need to be educated regarding the misconceptions of employing persons with disabilities in order to reduce barriers to hiring persons with disabilities (Kulkarni & Lengnick-Hall, 2013). Hunt and Hunt (2004) found that an educational

intervention significantly impacted participant's knowledge and attitudes in relation to persons with disabilities. Moreover, this scale will serve as a guide for professionals who are directly involved with employing persons with disabilities to enhance employers' knowledge of ADA and resources that can assist/guide in the process of hiring or retaining persons with disabilities by reducing fears associated with lack of knowledge and misconceptions related to hiring and retaining persons with disabilities.

4.1. *Limitations*

This study has several limitations. First, a purposive sample was used from the border region of South Texas which is comprised of Hidalgo and Cameron counties. The majority of participants self-identified as Hispanic. Participant responses and resulting scale factors are therefore representative of the Hispanic population in the border region of South Texas and may not be generalizable to Hispanics or non-Hispanic employers in other regions. Second, self-reporting and providing socially acceptable responses is also a possible limitation. Participants may have provided socially acceptable responses due to the nature of the study in terms of associating persons with disabilities as individuals who possess governmental/legal support. This became evident when employers were asked if they wanted to participate in a survey that had questions regarding hiring persons with disabilities. Some employers stated, "we do not want any problems", "corporate does not allow us to respond to surveys related to persons with disabilities because this could result in a conflict", "I do not want to have anything to do with persons with disabilities" to mention a few. Despite the survey not asking for any personal identifiers such as name of respondent or name of business you are employed by, some employers expressed hesitation and choose not to respond to the survey.

Another limitation was accessing those in hiring positions to respond to the survey via email and not being sure if the individual responding was directly in charge of hiring. When in-person visitation of businesses was performed, participants self-identified as persons directly in charge of hiring. Generally, persons in charge of hiring have busy schedules and thus they may have rushed through the responses. Limitations also resulted from the lack of scales/instruments that assess factors that influence employers' disposition to hire and retain persons with disabilities beyond

the scope of attitudes that could have been used as a base line.

4.2. *Future research*

The exploratory factor analysis conducted for this study is based on quantitative response survey items. Employer verbal/qualitative responses are not the focus of this study and thus follow up qualitative research could yield information that will provide a phenomenological perspective of employers' concerns when hiring persons with disabilities.

Based on this researcher's review of the literature, many surveys and instruments have been created to assess attitudes towards hiring persons with disabilities from different perspectives and with a specific disability population in mind. Employer knowledge about the capabilities and employment potential for different disability types needs to be explored. Although the Job Accommodations Network provides guidance related to accommodations for specific disabilities and is accessible to anyone wanting to know what is necessary and appropriate, more guidance is required in relation to the implications of disability in terms of employment potential. Vocational rehabilitation agencies whose goal is to employ persons with disabilities provide free disability sensitivity trainings to employers about implication of disability in relation to employment potential. However, are employers utilizing this resource? Are vocational rehabilitation agencies promoting this resource? If employers are utilizing this resource and vocational rehabilitation agencies are promoting this service, then what is lacking? Future research would benefit from exploring these inquiries to better understand where we are at and what needs to be done to address the areas of concern and or weaknesses that constitute a potential barrier to the employment for persons with disabilities.

Noteworthy, according to Schrader, Malzer, and Bruyere (2014), in order for an employer to conform to federal laws that are in favor of hiring and retention of persons with disabilities, an employee with a disability must be willing to disclose his/her disability. Disclosing a disability to employers is the first step towards receiving adequate employment accommodations which contributes to hiring and retention of persons with disabilities (Schrader, Malzer, & Bruyere, 2014). Reasons for not disclosing a disability are related to fear of a negative impact on the relationship with their supervisor and coworkers as well as job security (Dalgin & Gilbride, 2003;

Madaus, Foley, McGuire, & Ruban, 2002; Schrader et al., 2014).

Future research would benefit from testing this scale with employers from other regions using confirmatory factor analysis to assess if the same factor structure is supported and further establish validity. Results of future research performed with this scale can also benefit vocational rehabilitation education programs in terms of knowing what factors influence employers' disposition to hire and retain persons with disabilities. Vocational rehabilitation programs are directly related to enhancing the employability of persons with disabilities and can incorporate training modules that address employers' areas of concern and misconceptions, disability sensitivity training, and ADA training as well as knowledge about resources that can prepare the new generations of vocation rehabilitating professionals to educate employers without misconception fears and making knowledge-based decisions about hiring persons with disabilities.

Conflict of interest

None to report.

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