

Examining psychosocial factors associated with receiving workplace accommodations among people with disabilities

Shengli Dong*, Olivia Eto, Lu Liu and Alanis Villaquiran
Florida State University, Tallahassee, FL, USA

Received 22 April 2022

Accepted 21 July 2022

Abstract.

BACKGROUND: People with disabilities experience challenges in obtaining workplace support including job accommodations.

OBJECTIVE: This study examined the impacts of psychosocial factors affecting the likelihood of an employee with disability receiving an accommodation and subsequent effects on job satisfaction and job performance.

METHODS: This study recruited 596 participants from multiple national and state agencies serving persons with disabilities in U.S. A mediation model was conducted to examine the impacts of psychosocial factors (i.e., self-efficacy, positive affect, negative affect, workplace support, Americans with Disabilities Act (ADA) knowledge, accommodation knowledge, and work goal) on receiving accommodation, and the impacts of receiving accommodations on job satisfaction and job performance. The indirect effects of the psychosocial factors on job satisfaction and job performance via receiving accommodations were examined using the Delta method.

RESULTS: Among all the examined direct effects, only the effect from workplace support to receiving accommodations and the effect from receiving accommodations to job satisfaction were significant. Nevertheless, indirect effects were non-significant, indicating that all the psychosocial factors had no indirect effect (via receiving accommodation) on job satisfaction and job performance.

CONCLUSION: The findings reveal the significance of workplace support on employees' likelihood of receiving accommodations, and subsequent association between accommodation receipt and job satisfaction. Rehabilitation professionals need to provide adequate training to employers to facilitate inclusive and supportive workplace environments.

Keywords: Accommodation receiving, psychosocial factors, employees with disabilities, job satisfaction, workplace support

1. Introduction

In the past year, over 30 million employed adults over the age of 16 reported having a disability in the United States [1]. Personal, economic, and social benefits of employment exist for people with disabilities such as autonomy, enhanced psychological wellbeing, financial security, and an enhanced

sense of purpose to their life [2, 3]. Conversely, a lack of access to meaningful employment can contribute to poor self-confidence, less vocational opportunities, and greater health inequalities and poverty [4].

Despite the significance of employment, employment disenfranchisement and challenges are common amongst persons with disabilities. Employees with disabilities experienced lower average employability ratings as compared to their counterparts without disabilities as employers perceived individuals with disabilities to exhibit negative fixed traits [5]. Individuals with disabilities are underemployed and

*Address for correspondence: Shengli Dong, PhD, Associate Professor, Department of Educational Psychology and Learning Systems, College of Education, Florida State University, 1114 W. Call Street, Tallahassee, FL 32303, USA. E-mail: sdong3@fsu.edu.

experience challenges in maintaining their employment for an extended period longer than six months [6]. Thus, workplace supports and resources, including workplace accommodations are needed to support individuals with disabilities.

Accommodations are defined as “adjustments or changes to a job application process or work environment so employees with disabilities can complete job tasks” [6]. Workplace accommodations have multiple benefits for people with disabilities. For example, employees with disabilities who utilize accommodations demonstrate higher levels of integration into the workplace [7]. In addition, Anand and Sevake [8] found 26% of those who did not receive accommodations at their most recent job are currently employed compared to 37% of those who did receive accommodations. Workplace accommodations were found to mitigate the negative effects of temporary employment as well as underemployment, which are often associated with less life satisfaction and more discrimination on the basis of disability [9]. Without accommodations, employees with disabilities face shorter job tenures as well as a negatively affected job performance [10]. Workplaces are legally required to provide accommodations when they are not causing the business an undue burden [6]. However, individuals with disabilities need to take the initiative to disclose their disabilities and make requests for accommodations to take advantage of these needed resources.

Despite the significance of workplace accommodations, accumulative evidence reveals issues with receiving and provision of accommodations among people with disabilities. Researchers found that one in three accommodation requests are denied [11]. Of a nationally representative sample of American workers aged 18 to 69 years with a wide range of impairments, only 12% reported receiving workplace accommodations [12]. Maestas et al. [13] found that more than 47.1% of participants in their study did not receive any required accommodations. In 2019, around 54% of 24,000 charges of ADA violations were complaints related to failure to provide workplace accommodation [14].

Past research has primarily focused on factors affecting requesting accommodations among people with disabilities [15–17]. Considering the significance of accommodation and lack of access to accommodation, it is important to examine factors impact one’s receiving workplace accommodations and associated job satisfaction and job performance with provision of accommodations.

1.1. Literature review

1.1.1. Demographic factors related to accommodation receiving and provisions

Past research has examined various demographic and personal factors related to the receipt and provision of accommodations. For example, full-time employees, self-employed employees and those with higher education levels were found significantly more likely to receive accommodations [12]. However, mixed findings were found between receipt of workplace accommodations to nature of disabilities [12, 18] and accommodation types and cost [11]. The mixed and often contradictory results of these demographic and personal factors on accommodation receiving and provision suggest that certain psychological variables mediating the demographic and personal factors and accommodation receiving may have been overlooked.

1.1.2. Psychosocial factors related to accommodation receiving and provisions

Gates [19] highlighted workplace accommodation is a psychosocial process that involves the interaction between employees with disabilities, employers, supervisors, and the workplace environment. Thus, the following section will cover literature on key psychosocial factors in relation to receipt and provision of workplace accommodations.

Positive affect. Positive affect is reflective of individuals who feel enthusiastic, active, and high energy [20]. Soto [21] found that an individual’s positive affect renders certain behavioral characteristics and communication styles to others: highly extroverted individuals enjoy socializing, are comfortable expressing themselves, and frequently experience positive emotions. The affective component of extraversion subsumes positive affect activation [22]). Hill et al. [23] found extraversion is positively correlated with receiving an accommodation, in fact, one standard deviation increase in extraversion nearly doubles the likelihood of attaining an accommodation. In addition, positive affect has influence on an individual’s cognitive processes, especially when related to one’s perception of self-efficacy. Dong et al. [17] reported that individuals who are high in positive affectivity are speculated to have higher levels of self-efficacy, which in turn affect one’s decision to request accommodations and likelihood of receiving accommodations.

Negative affect. Negative affect is indicative of the feeling of distress and aversive mood states which

leads to unpleasurable engagement [20]. Kentsbock et al. [24] found aversive feelings of uncertainty and anxiety within accommodation processes as employees often do not know the future of their working situations and whether their requested accommodation will lead to improvement. Affect instability and neuroticism are distinct yet related constructs, specifically neuroticism represents average negative affect across time [25]. Neuroticism (i.e., aggressive in communicating and attaining goals) is consistently and strongly negatively correlated with accommodation outcomes [23]. While research, to the best of our knowledge, has not examined the relationship between negative affect and receiving accommodations.

Self-efficacy. Self-efficacy refers to an individual's belief on their capability to produce designated levels of performance [26]. An employee's level of self-efficacy is shown to influence an employee's intention to request accommodations and actual action to request accommodation. Specifically, Dong et al. [17] found a strong relationship between self-efficacy and an employee's intention to request due to their level of self-confidence in performing workplace tasks. Self-efficacy was also found to be significant in predicting request behavior [27]. Individuals with the personality trait of self-efficacy are observed to have a high sense of control exhibiting personal mastery and perceiving fewer external constraints [23]. Personality traits more associated with self-efficacy and alike characteristics (i.e., self-advocacy), largely determine the likelihood of receiving an accommodation [23].

Workplace support. Workplace support is essential for the employment success of individuals with disabilities. Smalligan and Boyens [28] reported that disability related discrimination was one of the top three reasons for the U.S. EEOC harassment complaints, whereas the support from supervisors is a significant determinant of effective accommodations and well-being of employees with disabilities [29]. In fact, employees who receive an accommodation reported higher perceived workplace support compared to employees who did not receive accommodations [30, 31]. On a broader scale, organizational support guides the development of a more inclusive workplace by promoting equitable treatment of disabled workers. Beatty et al. [32] reported that supportive organizational policies addressing the needs for persons with disabilities led to improved treatment in the workplace. Supervisory practices that focus on creating a supportive environment are

beneficial to employees with disabilities as they are more likely to consider accommodations [33]. Furthermore, Dong et al. [34] found that employees with the lowest level of workplace support tended to use the formal/mentioned ADA strategy, which is associated with lower odds of receiving accommodations. On the other hand, employees with high levels of workplace support used the informal/no mention of ADA strategy, which has the best odds for approval [34].

ADA knowledge. The possession of ADA knowledge can be important for people with disabilities to request and utilize workplace accommodation. However, employees with disabilities seem to lack knowledge on their rights and responsibilities to accommodations within ADA, which serves as a barrier to utilize workplace accommodations. For example, Smalligan and Boyens [28] found at-risk older workers did not receive workplace accommodations due to lack of knowledge on employment rights as an individual with a disability, largely due to older workers attributing their worsening health conditions to aging rather than labeling it as a disability. Furthermore, individuals with lower knowledge of ADA were less likely to request accommodations [31], which reduces the possibility of receiving accommodations. On the other hand, Dong [30] found that older workers with higher knowledge of ADA were more likely to receive accommodations.

Workplace accommodation knowledge. For employees with disabilities, knowledge on accommodations (e.g., types, cost, and benefits) can influence the likelihood of their receipt. In fact, the responsibility of proof for convincing employers to approve an accommodation resides with employees [35]. If employees could demonstrate how their accommodation would benefit a business operation, they were more likely to persuade employers to agree to and implement their requests [35]. Employees without such knowledge may not have the awareness and resolve to request accommodations, and thus losing opportunities to receive them. Individuals who do not have a clear understanding of their own accommodation are in a poor position to fully benefit in its effective use of workplace accommodations [36]. In a similar vein, Dong [30] found that older workers who received an accommodation reported having significantly higher accommodation knowledge than those who did not receive accommodations.

Workplace goal. One's perception of the importance of reaching workplace goals affects the likelihood of receiving an accommodation. Employ-

ees who did not receive an accommodation had a lower perception of the importance of accommodations in fulfilling their workplace goals, than those who requested and received an accommodation [31]. Gignac et al. [37] also found a greater number of approach goals were associated with positive outcomes in accommodations and a greater number of avoidance goals were associated with negative outcomes. Approach goals consist of pursuing rewarding or desired end states, whereas avoidance goals attempt to avoid punishments or undesired end states [37]. Goal setting and goal pursuing are forms of proactive coping for individuals with disabilities. Proactive coping impacts an individual's capacity for self-efficacy (which is positively associated with the likelihood of receiving an accommodation) [38].

Job satisfaction related to accommodation receiving and provisions. Workplace accommodations are an important factor in promoting job satisfaction [39]. Cleveland [40] found there is evidence to suggest that individuals would show greater job satisfaction and organizational commitment when accommodated in ways that allow them to work effectively. In comparison to individuals who did not receive or request accommodations, employees who received an accommodation reported higher levels of satisfaction in the workplace environment [31]. Employee input in the participation of the accommodation process has effects on employee satisfaction with the accommodation. For example, Balser and Harris [41] found people expect outcomes that are dependent on their perception of what they can accomplish therefore participation in the accommodation process leads to more satisfaction with the accommodation outcome.

Performance related to accommodation receiving and provisions. An employee's self-perception on the impacts of a received accommodation may affect job performance. Employees that received an accommodation assume their employers might believe that the accommodation is improving their job performance [31]. In addition, perceived job performance also affects one's likelihood to request an accommodation. Employers reported perceived performance benefits due to provision of accommodations. For example, Solovieva et al. [42] indicated 71% of employers reported increased accommodated employee productivity. In addition, 30% of the sample of employers mentioned increased overall company productivity due to provision of the accommodations.

1.2. Gaps in literature

Based upon the literature review, factors affecting employee's likelihood to request accommodations are abundant in research [15–17]. However, to our knowledge, there is a lack of studies examining the comprehensive effects of multiple psychosocial factors on an individual's likelihood of receiving accommodations and further effect on employment outcomes such as job satisfaction and job performance. Workplace accommodation request is just a half of the process in assisting people with disabilities for job success, receiving and implementation into their workplace is another. More research is warranted for employees with disabilities to achieve their goals and stay successful in the workplace. The research questions for this study are: What are the direct and indirect impacts of psychosocial factors (i.e., accommodation request-self-efficacy, positive and negative affect, knowledge on ADA and accommodation policies and procedure, workplace supports) on receiving accommodation and employment outcomes (i.e., job satisfaction and job performance), respectively? What are the associations between receiving accommodations and employment outcomes (i.e., job satisfaction and job performance)?

2. Methods

2.1. Participants

All participants in this study self-reported that they 1) were 18 years of age or older, 2) were persons with disabilities, 3) needed and requested workplace accommodations three months prior to the study (the three-month period was used with an aim to reduce potential recall errors of participant responses in this survey study). A sample of 596 participants recruited across the United States. Among these participants, 458 received the accommodation(s) while 138 did not receive. Roughly, 33% of them were males, while females accounted for 64%. About 64% of the participants were in the age range of 45 to 64, and over 75% were Whites. With respect to education level, the participants whose highest degree is associate/bachelor constituted the largest proportion (51%), followed by those with the highest degree of master and then by those only with a high school degree or below, and those with the highest degree of PhD accounted for the least. In addition, a major of the participants

Table 1
Frequencies and relative frequencies of demographic variables

	Frequency	(%)
Gender		
Male	196	32.9
Female	383	64.3
Missing cases	17	2.9
Age		
18–24	12	2.0
25–34	85	14.3
35–44	75	12.6
45–54	197	33.1
55–64	185	31.0
≥65	23	3.9
Missing cases	19	3.2
Race		
Whites	456	76.5
African American	46	7.7
Asian American	18	3.0
Latino	27	4.5
Native American	10	1.7
Multi-race	17	2.9
Missing cases	22	3.7
Education		
High school or lower	88	14.8
Associate/Bachelor	304	51.0
Master	146	24.5
Doctoral	39	6.5
Missing cases	19	3.2
Work status		
Part-time	161	27
Full-time	409	68.6
Missing cases	26	4.4
Disability types*		
Hearing impaired	138	23.1
Visual impaired	142	23.8
Mental illness	123	20.6
Cognitive disability	124	20.8
Multiple sclerosis	86	14.4
Mobility	163	27.3
Physical disabilities	160	26.8

*As participants self-reported multiple types of disabilities, the total frequency number of exceeds 596, and the percentage exceeds 100%.

worked full-time. See Table 1 for detailed demographic information.

2.2. Procedure

Participants in this study were recruited from multiple national and state organizations and agencies serving or advocating for PWDs such as the American Association of People with Disabilities, the National Multiple Sclerosis Society and its state chapters, National Mental Health Consumer Self-Help Clearinghouse, state centers for independent living, and the American Council of the Blind and its state coun-

cils. Once obtaining the Institutional Review Board approval, the first author contacted the directors of the organizations, provided them a recruitment letter as well as an online link for a Qualtrics survey, and invited them to distribute the survey to their constituents. The survey was pilot tested by 20 volunteers with various types of disabilities for readability prior to administering to the participants.

Individuals who chose to complete the online survey provided their informed consent prior to taking the survey, which takes about 10–15 to complete. Participants were first asked to verify whether they met the inclusion criteria for this study. Once they were eligible for the study participation, they were directed to the consent form page explaining the purpose of the study, voluntary nature of participation in the study, confidentiality, potential benefits and risks, and incentives. The survey includes demographic information and instruments described in the measures section. After completing the survey, participants were invited to enter a raffle with a chance to win a \$10 gift card. Because survey recruitment and advertisement were conducted online through multiple organizations and their state/local branch offices, no response rate was estimated. All data was analyzed, interpreted in a way in which participants' personal identifiable information would be protected.

2.3. Measures

The survey consisted of questions on demographics (such as age, gender, race, education, work status, and types of disability). Participants were asked if they received or did not receive the workplace accommodation(s) they requested in the past three months prior to taking the survey. Participants also self-reported on a 5-point Likert scale their levels of knowledge of ADA and accommodation policies and procedures (ranging from “*Not at all knowledgeable*” [0] to “*Extremely knowledgeable*” [4]), and job satisfaction (ranging from “*Not at all satisfied*” [0] to “*Extremely satisfied*” [4]). Work goal was measured by one item asking whether a participant has work goal(s), with “0” representing “*No*” and “1” representing “*Yes*”. Participants' job performance was rated on a 5-point Likert scale “*Poor*” (1) to “*Excellent*” (5). Finally, participants completed the following measures.

2.3.1. Self-efficacy in accommodation request

The accommodation self-efficacy scale was adopted from a 7-item scale developed by Rum-

rill [43]. The scale assesses self-efficacy related to requesting job accommodations among individuals with multiple sclerosis, with good internal consistency reliability (0.93) [43]. To reduce the response burden, four items from the scale were used. To be consistent with other scales in this study, participants were asked to rate their level of confidence in accommodation tasks on a five-point Likert scale “*Not at all confident*” (1) to “*Extremely confident*” (5). A sample item included: “Discussing my accommodation needs with my employer.” The alpha level for the current study was 0.87.

2.3.2. Positive and negative affect

The Positive and Negative Affect Schedule [20] is a 20-item measure assessing positive and negative emotions, with 10 items under positive affect and negative affect, respectively. Negative affect reflects a person’s negative emotions, including distress, anger, and guilt; positive affect refers to positive emotions such as attentiveness, activeness, and enthusiasm. The measure was found to have strong psychometric properties [20, 44]. To reduce the response burden, five items from the positive and negative affect were chosen, respectively, to balance the equal representation of items in covarying item pairs [44]. Examples of items include “afraid”, “nervous”, “determined”, and “attentive”. Participants rated themselves on a five-point scale from “*Not at all*” (1) to “*Extremely*” (5) about how comfortable they felt with asking for job accommodations. The alpha levels for the current study were 0.87 and 0.86 for positive affect and negative affect, respectively.

2.3.3. Perceived workplace supports

A six-item scale [31] assessing perception of level of disability friendly work environment and level of acceptance by the workplace was used. The scale was found to have good internal consistency reliability (0.81 to 0.84) in previous studies [30, 31]. A 5-point Likert scale, from “*Strongly disagree*” (1) to “*Strongly agree*” (5), was used to assess the workplace support. A sample item included “*My company has a disability-friendly environment* (e.g., recruiting and employing persons with disabilities).” The alpha level for the current study was 0.86.

2.4. Statistical analysis

We computed descriptive statistics for each measured variable. The internal consistency reliability coefficients were calculated for the scales (i.e., self-

efficacy scale, positive affect scale, negative affect scale, and workplace support scale) used in our study. Given that response data for scale items were ordinal, we calculated coefficient omega [45], which was developed specific for ordinal data, as the reliability coefficient. Also, correlations among scale items were reported.

Afterwards, we conducted a mediation model. In this model, self-efficacy, positive affect, negative affect, workplace support, ADA knowledge, accommodation knowledge, and work goal were input variables, job satisfaction and job performance were outcome variables, and accommodation receiving status, which was a binary variable and indicated whether or not participants received accommodation, acted as the mediator variable.

We ran the factor analyses required for computing coefficient omega and the mediation model in *Mplus* 8.4 [47]. Considering that data of scale items were ordinal, we conducted factor analyses using robust unweighted least squares (ULSMV) method based on Polychoric correlations (i.e., estimates of the relationships between the latent continuous variables underlying the observed ordinal variables). The mediation model was conducted with robust maximum likelihood (MLR) method and integration. With this specification, a logistic regression was used to estimate direct effects from input variables to the binary mediator, while linear regressions were used to estimate direct effects from the mediator to outcome variables. Based on the obtained parameter estimates for the mediation model in *Mplus*, we manually calculated the indirect effects of input variables on outcome variables via the mediator, using the Delta method proposed by Huang et al. [46]. This Delta method was developed for logistic mediation models (where all variables are binary), of which our mediation model (involving a binary mediator) is a special case. All other analyses were conducted in IBM SPSS 27. The variables of our interest had missing values. Missing data were handled in *Mplus* 8.4 and IBM SPSS 27 using the corresponding default methods.

3. Results

3.1. Descriptive statistics

Table 2 reports Polychoric correlation coefficients among scale items, along with the item means, standard deviations (SDs), skewness, kurtosis, and

Table 2
Polychoric correlations among scale items, plus descriptive statistics for each item

	Id	Ds	Ng	Ev	RE	SE	DF	RC	SC	AC	De	Is	En	Ac	At	Ir	As	Up	Nr	Af	
Id																					
Ds	0.70																				
Ng	0.63	0.84																			
Ev	0.70	0.65	0.68																		
RE	0.31	0.47	0.53	0.31																	
SE	0.37	0.52	0.58	0.37	0.81																
DF	0.28	0.39	0.44	0.27	0.59	0.71															
RC	0.33	0.37	0.38	0.33	0.47	0.48	0.39														
SC	0.37	0.45	0.47	0.34	0.47	0.59	0.50	0.83													
AC	0.35	0.39	0.43	0.32	0.45	0.56	0.56	0.70	0.77												
De	0.45	0.42	0.40	0.42	0.15	0.16	0.09	0.20	0.25	0.21											
Is	0.24	0.36	0.34	0.26	0.12	0.17	0.17	0.12	0.21	0.12	0.58										
En	0.23	0.37	0.34	0.27	0.18	0.20	0.16	0.11	0.19	0.11	0.41	0.62									
Ac	0.34	0.44	0.41	0.37	0.19	0.22	0.18	0.14	0.20	0.17	0.55	0.60	0.70								
At	0.33	0.43	0.37	0.35	0.20	0.22	0.16	0.11	0.17	0.16	0.55	0.55	0.58	0.67							
Ir	-0.31	-0.33	-0.34	-0.31	-0.39	-0.43	-0.38	-0.28	-0.33	-0.38	-0.02	-0.02	-0.06	-0.09	-0.09						
As	-0.40	-0.45	-0.40	-0.42	-0.33	-0.33	-0.27	-0.31	-0.32	-0.36	-0.26	-0.01	-0.09	-0.19	-0.21	0.62					
Up	-0.39	-0.42	-0.40	-0.37	-0.44	-0.49	-0.45	-0.37	-0.41	-0.43	-0.15	-0.08	-0.09	-0.20	-0.15	0.79	0.76				
Nr	-0.31	-0.47	-0.46	-0.36	-0.43	-0.45	-0.39	-0.33	-0.41	-0.41	-0.15	-0.08	-0.13	-0.21	-0.17	0.58	0.73	0.75			
Af	-0.16	-0.24	-0.21	-0.15	-0.32	-0.28	-0.24	-0.20	-0.18	-0.21	-0.01	0.14	0.10	0.05	0.06	0.47	0.58	0.57	0.56		
Mean	4.00	3.81	3.68	3.91	4.10	3.73	3.58	4.12	3.93	3.90	3.93	3.18	3.02	3.36	3.36	2.35	1.98	2.28	2.57	2.59	
SD	1.00	1.07	1.13	1.01	0.99	1.18	1.27	0.83	1.00	1.06	1.05	1.36	1.36	1.27	1.17	1.33	1.32	1.42	1.37	1.50	
Skewness	-0.87	-0.66	-0.64	-0.74	-1.06	-0.78	-0.63	-0.83	-0.79	-0.91	-0.91	-0.26	-0.11	-0.43	-0.36	0.53	1.09	0.68	0.33	0.33	
Kurtosis	0.30	-0.25	-0.41	-0.05	0.77	-0.18	-0.57	0.71	0.15	0.30	0.27	-1.10	-1.14	-0.82	-0.62	-1.02	-0.15	-0.95	-1.18	-1.38	
n	593	593	593	593	568	576	576	576	576	576	587	587	587	587	587	587	587	586	587	587	

Note. Id = Identify accommodations; Ds = Discuss accommodations; Ng = Negotiate accommodations; Ev = Evaluate accommodations; RE = Relation with employers; SE = Support from employers; DF = Disability friendly environment; RC = Relation with coworkers; SC = Support from coworker; AC = Acceptance from coworker; De = Determined; Is = Inspired; En = Enthusiastic; Ac = Active; At = Attentive; Ir = Irritable; As = Ashamed; Up = Upset; Nr = Nervous; Af = Afraid.

Table 3
Descriptive statistics of measured variables

	Frequency	(%)
ADA knowledge		
Low	53	8.9
Average	197	33.1
High	328	55.0
Missing cases	18	3.0
WA*Accommodation knowledge		
Low	102	17.1
Average	191	32.0
High	286	48.0
Missing cases	17	2.9
Work goal		
No	102	17.1
Yes	477	80.0
Missing cases	17	2.9
Receive accommodation		
No	138	23.2
Yes	458	76.8
Job satisfaction		
Very dissatisfied	8	1.3
Dissatisfied	14	2.3
Neutral	58	9.7
Satisfied	191	32.0
Very satisfied	203	34.1
Missing cases	122	20.5
Job performance		
Poor	6	1.0
Below average	18	3.0
Average	144	24.2
Above average	254	42.6
Excellent	158	26.5
Missing cases	16	2.7

* WA = Workplace accommodation.

sample sizes. Skewness indices for all scale items were less than 1.1 in absolute value, indicating that the distribution of all items was (approximately) symmetric. Correlations between items ranged from 0.63 to 0.84 for self-efficacy scale, from 0.41 to 0.70 for positive affect scale, from 0.47 to 0.79 for negative affect scale, and from 0.39 to 0.83 for workplace support scale. This implies that items are moderately or highly correlated within a scale, supporting the internal consistency of scale scores. In addition to the scale items, we had the other 6 measured variables (i.e., ADA knowledge, accommodation knowledge, work goal, receiving accommodation, job satisfaction, and job performance). Their descriptive statistics are presented in Table 3.

3.2. Internal consistency reliability

For each scale, we fitted a single-factor confirmatory factor analysis (CFA) model to the data and used the obtained parameter estimates to calculate coefficient omega (i.e., ranging from 0.86–0.89). In

addition, we found, for each scale, that there is no big difference among the standardized factor loadings of items: self-efficacy in requesting (0.78–0.91), positive affect (0.67–0.86), negative affect (0.67–0.94) and workplace support (0.72–0.88). Considering the high reliability and similar factor loadings within a scale, we decided to compute unweighted composite scores for each scale, by directly summing scores across items within the scale. The computed composite scores should be a reasonable proxy for the latent variable measured by the corresponding scale and would be used in the subsequent mediation analysis.

3.3. Mediation analysis

We included the composite scores for self-efficacy, positive affect, negative affect, and workplace support, as well as ADA knowledge, accommodation knowledge, and work goal as the “input” variables, receive as the mediator, and job satisfaction and job performance as the “output” variables. Table 4 presents the mediation analysis results, including the estimates of direct and indirect effects as well as the associated test statistics and 95% confidence intervals.

Among all the direct effects, two were found significant. The direct effect from workplace support to receiving accommodation was significant at $\alpha = 0.05$. Its estimate suggests that with every one unit increase in workplace support, the odds of receiving accommodations were 1.256 (= *exp* (0.228)) times larger, after controlling for the other 6 predictors. In addition, the direct effect from receiving accommodations to job satisfaction was significant ($p < 0.05$). The difference in job satisfaction was predicted to be 0.662 between participants who received accommodation(s) and those who did not receive. Nevertheless, all indirect effects were non-significant at $\alpha = 0.05$, indicating that self-efficacy, positive affect, negative affect, workplace support, ADA knowledge, accommodation knowledge, and work goal had no indirect effect (via receive) on job satisfaction and job performance.

4. Discussion

This study aimed to improve understanding of psychosocial factors contributing to the likelihood of an employee with a disability receiving workplace accommodations. To our knowledge, this is the first study comprehensively examining the associations

Table 4
Results of mediation analysis

	Estimate	Test statistics	95% confidence interval
Direct effect			
Self-efficacy → Receive WA*	0.046	0.959	[-0.049, 0.141]
Positive affect → Receive WA*	0.013	0.434	[-0.047, 0.073]
Negative affect → Receive WA*	0.001	0.057	[-0.047, 0.050]
Workplace support → Receive WA*	0.228	6.944**	[0.163, 0.292]
ADA knowledge → Receive WA*	-0.122	-0.573	[-0.540, 0.296]
WA* knowledge → Receive WA*	-0.095	-0.530	[-0.447, 0.257]
Work goal → Receive WA*	-0.062	-0.185	[-0.717, 0.593]
Receive WA* → Job satisfaction	0.662	2.592**	[0.161, 1.163]
Receive WA* → Job performance	0.056	0.592	[-0.130, 0.242]
Indirect effect (via receive)			
Self-efficacy → Job satisfaction	0.00045	0.597	[-0.00102, 0.00192]
Self-efficacy → Job performance	0.00004	0.425	[-0.00014, 0.00021]
Positive affect → Job satisfaction	0.00012	0.385	[-0.00051, 0.00076]
Positive affect → Job performance	0.00001	0.325	[-0.00005, 0.00007]
Negative affect → Job satisfaction	0.00001	0.039	[-0.00047, 0.00049]
Negative affect → Job performance	0.00000 ^a	0.039	[-0.00004, 0.00004]
Workplace support → Job satisfaction	0.00243	0.853	[-0.00316, 0.00803]
Workplace support → Job performance	0.00021	0.494	[-0.00061, 0.00102]
ADA knowledge → Job satisfaction	-0.00110	-0.625	[-0.00454, 0.00235]
ADA knowledge → Job performance	-0.00009	-0.435	[-0.00051, 0.00033]
WA* knowledge → Job satisfaction	-0.00087	-0.473	[-0.00445, 0.00272]
WA* knowledge → Job performance	-0.00007	-0.373	[-0.00046, 0.00031]
Work goal → Job satisfaction	-0.00057	-0.193	[-0.00639, 0.00525]
Work goal → Job performance	-0.00005	-0.184	[-0.00057, 0.00047]

Note. * WA = Workplace accommodation. ** $p < 0.05$. ^aThe estimate is not exactly zero. It is less than 0.000005 and rounded to the fifth decimal place.

of multiple psychosocial factors on the likelihood to receive accommodations and subsequent effects on job satisfaction and job performance. From the results, we see that receiving accommodations are more likely to occur in a supportive workplace environment. In addition, receiving an accommodation will likely increase one's job satisfaction. The results contribute to the field of accommodation research. First, only workplace support in the mediating model was shown to have a significant effect on receiving an accommodation: workplace support is found to increase one's odds of receiving an accommodation. Our finding is congruent with past literature as employees who receive accommodations report higher perceived workplace support than others that did not receive [30, 31]. In addition, Paetzold et al. [48] suggested accommodations are perceived more positively if employees feel positive morale and cooperation from their employers and coworkers. Thus, their accommodation requests are more likely to be perceived as leveling the playing field for people with disabilities so that they can enjoy the same advantages of work and perform at their highest potential [48]. The current findings along with past literature [29, 32] have consistently shown that workplace work (e.g., employer support, coworker support, and orga-

nizational support) are significant determinants to an effective accommodation.

Second, our study identified individuals who receive an accommodation report higher levels of job satisfaction. This is congruent with previous studies suggesting greater job satisfaction when accommodated effectively [31, 40]. Job satisfaction is influenced by variables related to the workplace environment, for example, workplace accommodations and workplace support [39]. These higher satisfaction ratings may be explained by the employees participation in the accommodation process as well as their receipt of the requested accommodation [41]. Employees granted with accommodations that allow them to work effectively will increase satisfaction levels due to the supportive nature of modifications to fulfill workplace needs.

Third, inconsistent with our hypothesis, other psychosocial factors (i.e., self-efficacy, positive and negative affect, ADA knowledge, RA knowledge, work goals) were not found associated with one's likelihood to receive an accommodation. These non-significant associations may be related to the fact that the ADA serves to protect the rights of people with disabilities through assisting them to perform the essential functions of their job. Thus, employees' per-

ceived ability related to workplace accommodation requesting may assist them to solicit accommodations rather than their likelihood of receiving accommodations. Although positive and negative affect have been shown to be associated with accommodation requesting [17, 34], considering the enhanced ADA awareness among people with disabilities and employers, an individual's match of job accommodation requests and their disability status along with their work environment may be the focal point in the whole process of accommodation rather than an individual affect during the request process.

ADA knowledge and RA knowledge were not found as significant factors in affecting one's likelihood to receive accommodations in the current study. Indicated in past research, older workers with higher knowledge of ADA and/or higher knowledge of accommodations were more likely to receive accommodations [30]. The inconsistent findings may be due to the characteristics of the sample in the current study in which most of them are Caucasian female with relatively high education levels. The invariance of the knowledge levels might contribute to the insignificant findings in the current study. As for workplace goals, previous research suggests a positive relationship between goals and receiving accommodations [31], however our study findings were not consistent. The inconsistent findings could be attributed to the measurement issue related to the workplace goal, where the workplace goal was assessed with a single-item measure. Future research may consider using a measure with high reliability and validity.

4.1. Limitations

This study has several limitations. First, participants in this study may not necessarily represent the population of disabled employees due to the convenient sampling strategy utilized in this study. A majority of the participants were female, Caucasian with relatively high education levels. Future research may recruit a more diverse group of participants with disabilities. Second, as our study collected data through the means of an online survey, the results of the study might depend upon the accuracy and subjectivity of the participants' responses. In addition, around one third of the participants self-reported mental and cognitive disabilities, their mental status might affect their responses on measures such as self-efficacy, positive affect and negative affect. Cautions should be applied in interpreting the results. Third, some of the measures used in the study

(e.g., job satisfaction, job performance, knowledge on ADA and accommodation policies and procedures) are single-item measures. Future research may consider using established measures to reduce potential errors related to reliability and validity of these measures.

4.2. Implications for practice

The present study has implications for practice for rehabilitation professionals. First, rehabilitation professionals need to constantly educate clients regarding the positive link between accommodation receipt and job satisfaction. An enhanced understanding on the benefits of accommodation receipt in relation to job satisfaction may empower people with disabilities to request and use necessary workplace resources to support their workplace success. Rehabilitation professionals need to provide training through workshops, webinars or invite employees who have successfully utilized workplace accommodations to share their experiences. These training sessions may increase self-advocacy for employees with disabilities, which are crucial for their request and utilize workplace accommodations. In addition, rehabilitation professionals should educate employers and supervisors on the benefits of providing workplace accommodations such as improving workplace productivity and morale, retaining skilled employees, reducing workers' training costs, and improving company diversity. Furthermore, employers may also benefit from tax break credits through providing workplace accommodations.

Second, rehabilitation professionals need to facilitate a more supportive and inclusive environment conducive for employees with disabilities to take full advantage of workplace resources and accommodations necessary to complete essential functions of their jobs. Workplace support is key to attaining an accommodation. Training on knowledge related to ADA and workplace accommodation policies and procedures may dispel biases and stereotypes to disabilities and requesting of workplace accommodations. Rehabilitation professions should assist employees to develop communication and social skills to establish rapport and build social support in the workplace. In addition, employers and supervisors might benefit from training on building supportive systems to encourage a diverse and inclusive workplace environment for the success of all employees.

4.3. Implications for research

Future research may further examine the effect of the psychosocial factors on receiving or provision of workplace accommodation on specific types of disabilities. As suggested by Beatty et al. [32], examining people with disabilities as a homogeneous group may not help the field capture the experiences of groups with specific types of disabilities. Future research on examining the associations among psychosocial factors, receipt of workplace accommodation and employment outcomes among specific disability types are warranted.

Future research may consider recruiting more diverse samples in terms of education levels, race, and gender to examine their experiences in the accommodation process. Multiple recruitment methods (such as through social media and mechanical Turks) should be used to broaden the scope of participants through multiple sources at national, state, and local levels.

Future research should use comprehensive research methods to examine the accommodation experiences and psychosocial factors associated with receiving accommodations and employment outcomes. Qualitative research methods including case study, interviews and focus groups can bring more nuances and insights on understanding various factors affecting the receipt of accommodations and employment outcomes for people with disabilities. Furthermore, future research may also examine psychosocial factors affecting providing accommodations from the perspectives of supervisors and employers.

5. Conclusions

People with disabilities still experience barriers and challenges in their endeavors for job success, especially in requesting and obtaining necessary workplace resources and accommodations. The findings of the current study reveal the significance of workplace support on employees' likelihood of receiving accommodations, and subsequent association between accommodation receipt and job satisfaction. Considering the significance of workplace support, rehabilitation professionals need to provide adequate training to employers/supervisors to facilitate a supportive and inclusive environment to empower employees with disabilities taking full advantage of workplace support for their employment success.

Ethics statement

This study followed the standards on ethical consideration and informed reporting guidelines.

Conflict of interest

The authors have no conflict of interest to report.

Funding

The authors have no funding to report.

Acknowledgments

The authors have no acknowledgements to report.

References

- [1] U.S. Bureau of Labor Statistics. Table A-6. In: Employment status of the civilian population by sex, age, and disability status, not seasonally adjusted. U.S. Bureau of Labor Statistics. <https://www.bls.gov/news.release/empstat.t06.htm>. Accessed 2 Apr 2021.
- [2] Brohan E, Evans-Lacko S, Henderson C, Murray J, Slade M, Thornicroft G. Disclosure of a mental health problem in the employment context: Qualitative study of beliefs and experiences. *Epidemiol Psychiatr Sci.* 2014;23(3):289-300. doi:10.1017/s2045796013000310
- [3] Hickox SA, Hall A. Atypical accommodations for employees with psychiatric disabilities. *American Business Law Journal.* 2018;55(3):537-94. doi:10.1111/ablj.12125
- [4] Drake RE, Whitley R. Recovery and severe mental illness: Description and analysis. *Can J Psychiatry.* 2014;59(5):236-42. doi:10.1177/070674371405900502
- [5] Bricout JC, Bentley KJ. Disability status and perceptions of employability by employers. *Soc Work Res.* 2000;24(2):87-95. doi:10.1093/swr/24.2.87
- [6] Parker HS, Gould R, Mullin C. ADA research brief: Mental health, employment and the ADA. ADA National Network Knowledge Translation Center. 2019. https://adata.org/research_brief/mental-health-employment-and-ada. Accessed 15 Jan 2022.
- [7] Banks B, Charleston S, Grossi T, Mank D. Workplace supports, job performance, and integration outcomes for people with psychiatric disabilities. *Psychiatr Rehabil J.* 2001;24(4):389-96. doi:10.1037/h0095066
- [8] Anand P, Sevak P. The role of workplace accommodations in the employment of people with disabilities. *IZA J Labor Policy.* 2017;6(12). doi:10.1186/s40173-017-0090-4
- [9] Konrad AM, Moore ME, Ng ES, Doherty AJ, Breward, K. Temporary work, underemployment and workplace accommodations: Relationship to well-being for workers with disabilities. *British Journal of Management.* 2013;24(3):367-82. doi:10.1111/j.1467-8551.2011.00809.x

- [10] Dolce JN, Bates, FM. Hiring and employing individuals with psychiatric disabilities: Focus groups with human resource professionals. *J Vocat Rehabil.* 2019;50(1):85-93. doi:10.3233/JVR-180990
- [11] Harlan SL, Robert PM. The social construction of disability in organizations: Why employers resist reasonable accommodation. *Work Occup.* 1998;25(4):397-435. doi:10.1177/0730888498025004002
- [12] Zwerling C, Whitten PS, Sprince NL, Davis CS, Wallace RB, Blanck P, Heeringa SG. Workplace accommodations for people with disabilities: National Health Interview Survey Disability Supplement. *J Occup Environ Med.* 2003;45(5):517-25. doi:10.1097/01.jom.0000063623.37065.b4
- [13] Maestas N, Mullen KJ. Unmet need for workplace accommodation. *J Policy Anal Manage.* 2019;38(4):1004-27. doi:10.1002/pam.22148
- [14] Americans with disabilities act of 1990 charges (charges filed with EEOC) (includes concurrent charges with Title VII, ADEA, EPA, and GINA) FY 1997- FY 2019. United States Equal Employment Opportunity Commission. 2021. <https://www.eeoc.gov/statistics/americans-disabilities-act-1990-ada-charges-charges-filed-eeoc-includes-concurrent>. Accessed 15 Jan 2022.
- [15] Baldrige DC, Swift ML. Withholding requests for disability accommodation: The role of individual differences and disability attributes. *J Manage.* 2013;39(3):743-62. doi:10.1177/0149206310396375
- [16] Dong S. Impact of self-efficacy, outcome expectations and affect on requesting job accommodations among individuals with disabilities. (Order No. 3495374) [Doctoral dissertation, University of Maryland, College Park]. ProQuest Dissertations and Theses Global. 2011.
- [17] Dong S, Fabian E, Xu J. Requesting workplace accommodations: Impact of self-efficacy, outcome expectancy, and positive affect. *Rehabil Psychol.* 2016;61(4):371-9. doi:10.1037/rep0000102
- [18] Zafar N, Rotenberg M, Rudnick A. A systematic review of work accommodations for people with mental disorders. *Work.* 2019;64(3):461-75. doi:10.3233/WOR-193008
- [19] Gates LB. Workplace accommodation as a social process. *J Occup Rehabil.* 2000;21(3):264-72. doi:10.1023/A:1009445929841
- [20] Watson D, Clark LA, Tellegen A. Development and validation of brief measures of positive and negative affect: the PANAS scales. *J Pers Soc Psychol.* 1988;54(6):1063-70. doi:10.1037//0022-3514.54.6.1063
- [21] Soto CJ. Big Five Personality Traits. In: mArterberry ME, Fingerman KL, Lansford JE, editors. *The SAGE encyclopedia of lifespan human development.* Thousand Oaks: Sage; 2018. pp. 240-241.
- [22] Smillie LD, DeYoung CG, Hall PJ. Clarifying the relation between extraversion and positive affect. *J Pers.* 2015;83(5):564-74. doi.org/10.1111/jopy.12138
- [23] Hill MJ, Maestas N, Mullen KJ. Employer accommodation and labor supply of disabled workers. *Labour Econ.* 2016;41:291-303. doi:10.1016/j.labeco.2016.05.013
- [24] Kensbock JM, Boehm SA, Bourovoi K. Is there a downside of job accommodations? An employee perspective on individual change processes. *Front Psychol.* 2017;8:1536. doi.org/10.3389/fpsyg.2017.01536
- [25] Miller DJ, Vachon DD, Lynam DR. Neuroticism, negative affect, and negative affect instability: Establishing convergent and discriminant validity using ecological momentary assessment. *J Individ Differ.* 2009;47(8):873-7. doi:10.1016/j.paid.2009.07.007
- [26] Bandura A. Social cognitive theory. In: Vasta IR. editor. *Annals of child development.* Six theories of child development, vol. 6. Greenwich: JAI Press; 1989. pp. 1-60.
- [27] Vance S, Campbell A, Dong S. Examining impacts of mindfulness in requesting job accommodations for individuals with disabilities. *Rehabil Couns Bull.* 2018;61(2):78-89. doi:10.1177/0034355216683673
- [28] Smalligan J, Boyens C. Policies for an aging labor force. Urban Institute. 2020. <https://www.urban.org/sites/default/files/publication/103083/policies-for-an-aging-labor-force>. Accessed 15 Nov 2021.
- [29] Gates LB, Akabas SH, Oran-Sabia V. Relationship accommodations involving the work group: Improving work prognosis for persons with mental health conditions. *Psychiatr Rehabil J.* 1998;21(3):264-72. doi:10.1037/h0095303
- [30] Dong S. Assessing workplace accommodation requests among older workers. *Rehabil Couns Bull.* 2018;21(3):264-72. doi:10.1177/0034355216687286
- [31] Dong S, Guerette AR. Workplace accommodations, job performance and job satisfaction among individuals with sensory disabilities. *The Australian Journal of Rehabilitation Counseling.* 2013;19:1-20. doi:10.1017/jrc.2013.1
- [32] Beatty JE, Baldrige DC, Boehm SA, Kulkarni M, Colella AJ. On the treatment of persons with disabilities in organizations: A review and research agenda. *Hum Resour Manage.* 2018;58(2):119-37. doi:10.1002/hrm.21940
- [33] Breward K. Seeking new solutions: Best practices in workplace accommodation for psychiatric impairments. In S. L. Fielden, M. E. Moore & G. L. Bend (Eds.), *The Palgrave handbook of disability at work.* Palgrave Macmillan. 2020. doi:10.1007/978-3-030-42966-9_21
- [34] Dong S, Geyer P, Hinton T, Chin A. Accommodation request strategies among employees with disabilities: Impacts and associated factors. *Rehabil Couns Bull.* 2020;63(3):168-78. doi:10.1177/0034355219834630
- [35] Gold PB, Oire SN, Fabian ES, Wewiorski NJ. Negotiating reasonable workplace accommodations: Perspectives of employers, employees with disabilities, and rehabilitation service providers. *J Vocat Rehabil.* 2012;37(1):25-37. doi:10.3233/JVR-2012-0597
- [36] Baker D, Scanlon D. Student perspectives on academic accommodations. *Exceptionality.* 2016;24(2):93-108. doi:10.1080/09362835.2015.1064411
- [37] Gignac M, Jetha A, Ginis K, Ibrahim S. Does it matter what your reasons are when deciding to disclose (or not disclose) a disability at work? The association of workers' approach and avoidance goals with perceived positive and negative workplace outcomes. *J Occup Rehabil.* 2021;31(3):638-51. doi:10.1007/s10926-020-09956-1
- [38] Russinova Z, Rogers ES, Ellison ML, Bloch P, Lyass A, Wewiorski N. Predictors of financial self-sufficiency among Social Security beneficiaries with psychiatric disabilities. *J Vocat Rehabil.* 2013;38(1):49-66. doi:10.3233/JVR-120620
- [39] Villotti P, Corbière M, Zaniboni S, Fraccaroli F. Individual and environmental factors related to job satisfaction in people with severe mental illness employed in social enterprises. *Work.* 2012;43(1):33-41. doi:10.3233/WOR-2012-1445
- [40] Cleveland JN, Barnes-Farrell JL, Ratz JM. Accommodation in the workplace. *Human Resource Management Review.* 1997;7(1):77-107. doi:10.1016/S1053-4822(97)90006-1

- [41] Balsler DB, Harris MM. Factors affecting employee satisfaction with disability accommodation: A field study. *Employee Responsibilities and Rights Journal*, 2008;20:13-28.
- [42] Solovieva TI, Dowler DL, Walls RT. Employer benefits from making workplace accommodations. *Disabil Health J*. 2011;4(1):39-45. doi:10.1016/j.dhjo.2010.03.001
- [43] Rumrill PD. Increasing the frequency of accommodation requests among persons with multiple sclerosis: A demonstration of the progressive request model (Order No. 9434924) [Doctoral dissertation]. ProQuest Dissertation and Theses database. 1993.
- [44] Crawford JR, Henry JD. The positive and negative affect schedule (PANAS): construct validity, measurement properties and normative data in a large non-clinical sample. *Br J Clin Psychol*. 2004;43(3):245-65. doi:10.1348/0144665031752934.
- [45] Green SB, Yang Y. Reliability of summed item scores using structural equation modeling: An alternative to coefficient alpha. *Psychometrika*. 2009;74:155-167.
- [46] Huang SS, Succop P, Goodman E. Statistical assessment of mediational effects for logistic mediational models. *Statistics in Medicine*. 2004;23:2713-28.
- [47] Muthén LK, Muthén BO. *Mplus user's guide*. 8th ed. Los Angeles: Muthén & Muthén; 2017.
- [48] Paetzold R, García MF, Colella A, Ren R, Triana M, Ziebro M. Perceptions of people with disabilities: When is "reasonable" accommodation fair? *Basic Appl Soc Psych*. 2008;30(1):27-35. doi:10.1080/01973530701665280