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**Journal of Occupational
Rehabilitation**

ISSN 1053-0487

J Occup Rehabil
DOI 10.1007/s10926-020-09884-0





Disability Severity, Leader–Member Exchange, and Attitudinal Outcomes: Considering the Employee and Supervisor Perspectives

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Abstract

Purpose Although the effects of disability on employee work outcomes are well-documented, the mechanism that explain these relationship remains unclear. We propose that the quality of relationships employees with disabilities develop with their supervisors explains the link between disability severity and employee work outcomes. More specifically, we examine the mediating role of leader–member exchange (LMX) in the relationship between employee disability severity and presenteeism, job accommodation, supervisor-rated performance, job satisfaction, and resilience. We test this proposition from two perspectives: employees with disabilities and supervisors who had supervised employees with disabilities. **Method** We collected data from employees with musculoskeletal disabilities (Sample 1, $N=264$) and supervisors who had supervised employees with musculoskeletal disabilities in the past two years (Sample 2, $N=224$). **Results** From the perspective of employees with disabilities (Sample 1), disability severity was negatively related to LMX quality ($R^2=.28$). Contrary to our hypothesis, we found a positive relationship between supervisor perceptions of employee disability severity and LMX in Sample 2 ($R^2=.27$). After adjusting for disability severity, LMX quality was related to improved outcomes in both samples: higher employee job satisfaction (Sample 1: $R^2=.36$), provision of job accommodations (Sample 1: $R^2=.16$; Sample 2: $R^2=.15$), resilience (Sample 1: $R^2=.18$), lower levels of presenteeism (Sample 1: $R^2=.20$), and higher performance evaluations for employees with disabilities (Sample 2: $R^2=.49$). **Conclusion** By collecting two separate samples, we revealed similarities and differences in employee and supervisor perspectives. Our findings demonstrated the need for including both perspectives when considering implications of employee disability severity.

Keywords Persons with disabilities · Leader–member-exchange · Presenteeism · Resilience · Job accommodation

We thank Nick Turner for comments on an earlier version of this research, which was presented at the 19th European Congress of Work and Organizational Psychology, Turin, Italy.

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Introduction

Research has shown that work experiences among people with disabilities are different, in a negative way, from employees without disabilities. For instance, employees with disabilities report lower levels of job satisfaction [1] and are confronted with lower performance expectations [2]. These findings are consistent with a meta-analysis conducted by Ren et al. [3] who demonstrated that performance expectations for employees with disabilities are lower than for their non-disabled co-workers. Employers also have unfounded concerns about the accommodation costs [4], and research has shown that employees with disabilities encounter negative attitudes toward accommodation requests [5]. Even when accommodations are provided, they are often poorly planned and executed [6].

One important factor supporting employment and improving work experiences for employees with disabilities

is the relationship they develop with their supervisors [7]. The quality of employee–supervisor relationships largely determines how employees are treated [8]. In line with this thinking, leader–member exchange (LMX) theory [9] has received considerable attention. The theory focuses on the dyadic relationship between leaders and their followers, with the central tenet that supervisors develop unique relationships with each of their employees, and the quality of relationships is ranked from low to high [10]. Low-quality relationships are characterized by exchange that is directly specified by employment contract, whereas high-quality exchange relationships are characterized by mutual respect, trust, social support, and liking [9]. Furthermore, employees who have high-quality relationships with their leaders benefit from provided social and work support, assistance with problems at work, emotional support, and formal and informal rewards [8, 11]. These types of support can be crucial for improving work outcomes for employees with disabilities. Research has shown that a favorable exchange relationship is more likely when a follower is viewed as similar with regards to demographic attributes, attitudes, and values [12]. From the supervisor perspective, employee disability status can be viewed as a source of dissimilarity leading to lower LMX quality and poorer work outcomes [13]. From the perspective of employees with disabilities, a high level of disability severity might affect their perceptions of possible contributions or invoke self-stigma resulting in lower LMX quality [14].

Despite its relevance, LMX has received little attention in the work disability research. This study addresses this gap and makes three important contributions to the existing disability and LMX literature. First, it contributes to the intersection of disability and leadership research by investigating the mediating role of LMX in the relationship between perceived disability severity and employee work outcomes. Second, studies in this field often examine disability status as a dichotomous variable [13, 15] rather than the severity of disability condition. Such dichotomous operationalization implies that disability is an all-or-nothing condition. However, we posit that the severity of disability has important implications to both the quality of employee–supervisor relationships and subsequent employee work outcomes. We investigate how disability severity, rather than disability status, relates to supervisor–employee relationships and employee work outcomes. Third, we collect data from two samples that separately examine employee and supervisor perspectives, shedding light on the differences and similarities between the two perspectives. Collecting data from employees with disabilities and supervisors who had employees with disabilities allows us to examine outcomes that are experienced by either the employee (i.e., resilience, job satisfaction, presenteeism) or the leader (i.e., employee performance).

The majority of research on the role of LMX has been conducted from the perspective of an employee [16]. However, given a modest level of agreement on the quality of LMX between employees and supervisors [17], it is important to examine how these two parties view the same phenomenon.

Theoretical Background and Hypotheses Development

Relationships between supervisors and employees are essential in determining work experiences and work outcomes for employees. Employers and co-workers often have unfounded concerns about employees with disabilities, including low performance expectations and assumptions around high costs of job accommodations [18]. Moreover, non-disabled supervisors are likely to perceive followers with disabilities as dissimilar which, in turn, leads to decreased positive affect [13] and reduces likelihood of a favorable exchange relationship [12]. Perceived similarity between individuals is an important determinant of their liking for each other and has implications for LMX quality [13, 15].

According to social exchange theory, individuals conduct a subjective cost–benefit analysis before engaging in relationships [19]. Leader expectations about follower work contributions are important determinants of LMX quality. However, leaders may hold biased views of the capabilities of employees with disabilities, in particular when the performance of the employee with disability has direct consequences for the leader [20]. Given that expectations about employee contributions are often a better predictor of LMX quality than actual job performance [21], employee disability status may adversely affect LMX quality.

LMX relationships form as a result of a reciprocation process [22]. In general, leaders are perceived as initiators of the reciprocity process. Followers respond to favorable treatment by reciprocating the favorable treatment [22]. If a leader believes that an employee has a severe disability, the leader could be less willing to initiate the negotiation because of a belief the employee will be unable to reciprocate the favourable treatment [23]. Therefore, a high level of perceived disability affects perception of possible contributions and reduces role-making opportunities resulting in lower levels of LMX quality from the perspective of both leaders and employees with disabilities. Furthermore, awareness and higher levels of perceived disability severity might invoke self-stigma [14] leading to a disrupting effect on employees' outcomes. In support of this proposition, research on gender stereotypes demonstrate that implicit awareness of stereotypes results in individuals conforming to those stereotypes [24]. Thus, we hypothesize:

Hypothesis 1 From the employee perspective, the level of disability severity is negatively associated with LMX quality.

Hypothesis 2 From the supervisor perspective, perceived employee disability severity is negatively associated with LMX quality.

In high-quality LMX relationships, leaders provide social and work support, and valuable information, whereas followers offer extra efforts and dedication [11]. Employees who have high-quality relationships with their supervisors receive more resources (e.g., provided job accommodation) and have more positive socio-emotional experiences (e.g., job satisfaction) [25]. Empirical research shows that LMX is associated with numerous work outcomes, including increased job performance, satisfaction with the supervisor, overall job satisfaction, commitment, role clarity, and lower turnover intention [8, 16]. The outcomes of interest for this study were selected because of their known relationship to LMX (i.e., job satisfaction and performance) or their unique relevance to employees with disabilities. From the perspective of employees with disabilities, we expect that LMX quality will be related to increased job satisfaction and resilience, lower levels of presenteeism, and higher levels of job accommodation.

Hypothesis 3 For employees with disabilities, LMX quality is positively associated with job accommodation (H3a), resilience (H3b), job satisfaction (H3c), and is negatively associated with presenteeism (H3d).

From the perspective of supervisors who supervise employees with disabilities, we hypothesize that LMX quality will be related to supervisor-rated employee performance and higher levels of provided job accommodation.

Hypothesis 4 From the supervisor perspective, employee disability severity is positively related to supervisor-rated performance (H4a) and higher levels of provided job accommodation (H4b).

The role of LMX in the relationship between perceived disability severity and employee work outcomes is based on the notion that supervisor–employee relationships largely define work experiences and work outcomes for employees [16]. Therefore, it is expected that LMX quality will mediate the relationship between perceived disability severity and important job outcomes. Mediators explain how “external physical events” (disability severity) take on psychosocial significance (relationship quality) to affect related outcomes [26].

Hypothesis 5 From the employee perspective, LMX mediates the relationship between disability severity and job accommodation (H5a), resilience (H5b), job satisfaction (H5c), and presenteeism (H5d).

Hypothesis 6 From the supervisor perspective, LMX mediates the relationship between perceived employee disability severity and supervisor-rated performance (H6a) and provided job accommodation (H6b).

Method

In order to evaluate the effects of disability severity from both the employee and supervisor perspectives, we collected cross-sectional data from two separate samples. Collecting data from both employees with disabilities and supervisors who had supervised employees with disabilities allowed us to shed light on the differences and similarities between the two perspectives. We recruited participants via an online panel provider: Amazon’s MTurk. Online platforms, including MTurk, provide reliable data and access to diverse populations [27]. Participants were invited to take part in a study in exchange for a small payment (1 USD). In both samples, we focused specifically on musculoskeletal disabilities due to its prevalence in the general population. Sample 1 was comprised of employees who had musculoskeletal disabilities, and Sample 2 data were collected from supervisors who had supervised employees with musculoskeletal disabilities in the past 2 years. If supervisors had more than one employee with a disability, they were instructed to think about only one specific employee.

Sample 1: Employees with Musculoskeletal Disabilities

Three hundred adults attempted the survey. Of these 300, we excluded 36 respondents from the analysis due to the failure to pass screening questions (i.e., participants indicated that they were not currently employed) (16 respondents), those who did not describe their disability (12 respondents), or who spent insufficient time completing the survey (8 respondents) [28]. Thus, we retained 264 responses for the data analysis. The demographic make-up of the employee sample was 53% male, mostly in the age range of 25 to 44 years ($M = 35.8$, $SD = 11.2$). In terms of ethnicity, the majority of respondents were Caucasian (86%), followed by African American (7%) and Asian (3%). The mean organizational tenure was 5.1 years ($SD = 1.9$), and the average tenure with the current supervisor was mostly in the range of 2 to 6 years ($M = 4.5$, $SD = 1.7$). One-half (53%) of the participants were degree holders, followed by high school (30%) and college (17%) diploma. Most participants (90%)

worked 35 or more hours per week. All participants were located in the U.S.

Sample 2: Supervisors Previously Supervising an Employee with Musculoskeletal Disabilities

Two hundred and ninety supervisors attempted the survey. Of the 290 participants, we excluded 69 respondents. After screening out participants who did not meet the screening requirements (31 respondents), who failed to describe their employee's disability (23 respondents), or who spent insufficient time completing the survey (15 respondents) [28], we retained 224 responses for the data analysis. Supervisors of employees with disabilities were mostly in the age range of 25 to 45 years ($M=34.3$, $SD 10$), and 56% were male. Similar to Sample 1, the majority of participants were Caucasian (84%), followed by African American (6%), and Asian (4.5%). The organizational tenure was mostly in the range of two to eight years ($M=5.4$, $SD 1.7$). The majority of supervisors represented middle (57%) or lower-level (32%) management. More than one-half (57%) of participants were degree holders, followed by college (22%) and high school (21%) diploma. All participants were located in the U.S.

Measures: Sample 1

Disability Severity

We measured perceived disability severity on a continuum as opposed to a dichotomous operationalization of disability. We used 27 items from the Revised Illness Perception Questionnaire (IPQ-R) to measure perceived disability severity [29]. A sample item is "My disability is very unpredictable." Participants were asked to indicate on a 7-point scale (1 = strongly disagree; 7 = strongly agree) the extent of their disagreement/agreement with each statement. A higher score represents a higher level of disability severity.

Leader Member-Exchange

We used Liden and Maslyn's scale [30] to assess the quality of employee-supervisor relationships. The scale includes 12 items. A sample item is "I do work for my supervisor that goes beyond what is specified in my job description." Respondents indicated the extent of their disagreement/agreement with each statement on a 7-point scale (1 = strongly disagree; 7 = strongly agree). A higher score reflects better LMX quality.

Job Accommodation

We adapted the Job Accommodation Scale (JAS) to measure the amount of provided job accommodation to the

employee [6]. The scale contains 21 items measuring different aspects of job accommodation. The original JAS measures job accommodation on a 4-point scale (1 = very unlikely; 4 = very likely). However, in the context of this study, some employers might have already offered some types of job accommodation. Thus, we measured job accommodation on a 7-point scale (1 = very unlikely; 7 = has already been offered). We slightly modified items to reflect responses from the employee rather than supervisor perspective. A sample item is "By asking coworkers to assist me as needed." A higher JAS score indicates that the employee has received more job accommodations.

Job Satisfaction

We assessed the overall level of job satisfaction with two items taken from the Index of Organization Reactions [31]. A sample item is "All in all, I am satisfied with my job." Respondents were asked to indicate on a 7-point scale the extent to which they agree or disagree with each statement (1 = strongly disagree; 7 = strongly agree).

Resilience

Resilience reflects employees' ability to adapt to the stressful experiences or changing demands [32]. We used the Connor-Davidson Resilience Scale (CD-RISC) [33] to measure employees' level of resilience. The scale comprises 25 items, and a sample item is "I can handle unpleasant feelings." Participants indicated their level of agreement or disagreement with each statement on a 7-point scale (1 = strongly disagree; 7 = strongly agree). A higher score represents higher levels of employees' overall resilience.

Presenteeism

Presenteeism refers to being present at work despite an illness or injury [34]. Presenteeism can affect both quantity and quality of work, and can further exacerbate the existing condition. We measured the degree to which employees with disabilities engaged in presenteeism using the Stanford Presenteeism Scale (SPS-6) [35]. The scale comprises six items, and a sample item is "My condition has distracted me from taking pleasure in my work." Respondents indicated their level of agreement or disagreement with each statement on a 7-point scale (1 = strongly disagree; 7 = strongly agree). A higher score indicates higher levels of engaging in presenteeism.

Control Variables

We collected respondents' age, gender, tenure, and frequency of interactions with the supervisor. We also used

a number of procedural remedies to reduce for the common method variance (CMV) [36]. For example, predictors, criterion variables, and mediator variables were presented in separate survey sections increasing physical distance between different types of measures. As well, both positive and negative items were included in the surveys.

Measures: Sample 2

Perceived Employee Disability Severity

As with Sample 1, we used 27 items from the IPQ-R to measure perceived employee disability severity [29]. We made minor adjustments to the question style to reflect the workplace context and musculoskeletal disability. A sample item is “My subordinate’s disability has major consequences for his/her job.” All items were measured on a 7-point scale (1 = strongly disagree; 7 = strongly agree) reflecting supervisors’ level of agreement or disagreement with each statement. A higher score refers to higher levels of perceived employee disability severity.

Leader Member-Exchange

We used Liden and Maslyn’s scale [30] to assess the quality of employee–supervisor relationships from the supervisor perspective. A sample item is “I like this employee very much as a person.” Respondents indicated their level of agreement or disagreement with each statement on a 7-point scale (1 = strongly disagree; 7 = strongly agree). A higher score indicates better LMX quality.

Job Accommodation

We measured the amount of job accommodation provided to the employee with disability. We used JAS to measure provided job accommodation [6]. Similar to Sample 1, job accommodation was measured on a 7-point scale (1 = very likely; 7 = has already offered). A sample item is “Replace normal job tasks with easier things.” A higher score indicates that the employee was provided with more job accommodations.

Performance

We used the In-role Behavior (IRB) instrument to assess supervisors’ perceptions of employee performance [37]. The scale comprises seven items, each rated on a 7-point scale (1 = never; 7 = always). A sample item is “Adequately completes assigned duties.” A higher score indicated higher level of supervisor-rated employee performance.

Control Variables

We collected demographic data, including age, gender, tenure, and frequency of interactions with the employee. Similar to Sample 1, we used a number of procedural remedies to reduce CMV [36].

Data Analysis

To establish discriminant validity of the variables, we first performed a series of confirmatory factor analyses (CFAs) using Mplus software package [38]. To test our hypotheses, we conducted a mediation analysis using the PROCESS macro [39]. We calculated 95% confidence intervals based on bias-corrected bootstrap analysis with 5000 repetitions to analyze the indirect effects. In the analysis we controlled for the frequency of interactions with the supervisor (Sample 1) or employee (Sample 2), gender, organizational tenure, and age.

Results

Sample 1

First, we conducted a series of CFAs. To keep a reasonable number of degrees of freedom in the model, we used a content-based parcelling approach to produce parcels for perceived disability, LMX, resilience, and job accommodation (multidimensional scales), and a random parcelling approach [40] to create three parcels for presenteeism. All parcels or items loaded onto a single latent construct; all error terms were independent. The hypothesized 6-factor model (i.e., all variables are independent of each other) provided an excellent fit with the data, $\chi(194) = 433.61$, $p < .001$, CFI = 0.92, TLI = 0.90, RMSEA = 0.07). Furthermore, the hypothesized model was significantly better than the 3-factor model (all outcome variables were grouped together), $\Delta\chi(12) = 1,013.07$, $p < 0.01$ [$\chi(206) = 1,446.68$, $p < 0.001$, CFI = 0.58, TLI = 0.53, RMSEA = 0.15], and the 1-one factor model (all 6 factor items were grouped together), $\Delta\chi(15) = 1,366.99$, $p < 0.01$ [$\chi(209) = 1,800.60$, $p < 0.001$, CFI = 0.46, TLI = 0.41, RMSEA = 0.17]. Therefore, the results of CFA supported the discriminant validity of the measures and we proceeded with the mediation analysis.

Table 1 displays means, standard deviations, and intercorrelations among the variables in Sample 1.

Table 2 presents the results of our hypotheses tests for Sample 1. In support of Hypothesis 1, disability severity was significantly and negatively related to LMX quality ($b = -0.22$, $p < 0.01$). With regard to Hypothesis 3 LMX was significantly and positively related to job satisfaction

Table 1 Means, standard deviations, and correlations: sample 1 (employee perspective)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Age	35.81	11.16										
2. Gender	1.47	0.50	0.14*									
3. Frequency of interactions	5.67	1.24	0.15*	0.05								
4. Tenure	4.48	1.75	0.47**	0.09	0.12*							
5. Disability severity	3.83	1.05	0.03	0.09	-0.02	-0.04	(0.84)					
6. LMX	5.19	1.41	0.20**	-0.03	0.46**	0.22**	-0.20**	(0.97)				
7. Presenteeism	3.69	1.27	-0.10	0.00	0.01	0.00	0.41**	-0.19**	(0.84)			
8. Resilience	5.16	1.00	0.17**	0.07	0.27**	0.14*	-0.15*	0.39**	-0.15*	(0.94)		
9. Job accommodation	3.20	1.39	0.12	0.05	0.18**	0.13*	0.01	0.39**	0.12	0.11	(0.95)	
10. Job satisfaction	3.88	1.01	0.18**	0.03	0.24**	0.16**	-0.29**	0.57**	-0.28**	0.45**	0.27**	(0.90)

Cronbach's alphas appear in parentheses on the diagonal

N = 264, *LMX* leader-member exchange

p* < .05; *p* < .01

Table 2 Direct and indirect effects of disability severity on the outcomes: sample 1 (employee perspective)

	<i>LMX</i> (<i>M</i>)	<i>Job Sat</i> (<i>Y1</i>)		<i>JAS</i> (<i>Y2</i>)		<i>Resilience</i> (<i>Y3</i>)		<i>Presenteeism</i> (<i>Y4</i>)	
	<i>R</i> ² = .28**	<i>R</i> ² = .15**	<i>R</i> ² = .36**	<i>R</i> ² = .04	<i>R</i> ² = .16**	<i>R</i> ² = .10**	<i>R</i> ² = .18**	<i>R</i> ² = .06*	<i>R</i> ² = .20**
	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)
Frequency of interaction	0.51** (0.06)	0.17** (0.05)	-0.03 (0.05)	0.19* (0.07)	-0.00 (0.07)	0.20** (0.05)	0.08 (0.05)	0.04 (0.06)	0.12 (0.06)
Gender	-0.16 (0.15)	0.06 (0.12)	0.12 (0.10)	0.06 (0.17)	0.12 (0.16)	0.11 (0.12)	0.15 (0.12)	-0.06 (0.14)	-0.08 (0.14)
Tenure	0.12 (0.04)	0.07 (0.03)	0.02 (0.03)	0.07 (0.05)	0.02 (0.05)	0.06 (0.03)	0.03 (0.03)	-0.01 (0.04)	0.01 (0.04)
Disability severity (<i>Y</i>)	-.22** (0.07)	-0.27** (0.06)	-0.18** (0.05)	0.05 (0.08)	0.14 (0.08)	-0.14* (0.06)	-0.08 (0.06)	0.51** (0.07)	0.47** (0.07)
<i>LMX</i> (<i>M</i>)			0.39** (0.04)		0.38** (0.07)		.24** (0.05)		-0.17** (0.06)
Summary of total, direct, and indirect effects		<i>Job Sat</i>		<i>JAS</i>		<i>Resilience</i>		<i>Presenteeism</i>	
		Point estimate (95% CI)		Point estimate (95% CI)		Point estimate (95% CI)		Point estimate (95% CI)	
Total effect of perceived disability on outcomes		-0.27 (-0.379, -0.157)		0.05 (-0.109, 0.212)		-0.14 (-0.249, -0.021)		0.51 (0.371, 0.642)	
Direct effect of perceived disability on outcomes		-0.18 (-0.279, -0.084)		0.14 (-0.016, 0.292)		-0.08 (-0.193, 0.028)		0.47 (0.333, 0.606)	
Indirect effect of perceived disability on outcomes		-0.09 (-0.149, -0.036)		-0.09 (-0.150, -0.033)		-0.05 (-0.096, -0.019)		0.04 (0.008, 0.077)	

Confidence intervals of indirect effects are based on 5000 bias-corrected bootstrap samples. Unstandardized coefficients are reported

N = 258 (listwise deletion), *X* independent variable, *M* mediator, *Y1*–*Y4* dependent variables, *LMX* leader-member exchange, *Job Sat* job satisfaction, *JAS* job accommodation scale, *CI* confidence interval

p* < .05; *p* < .01

(*b* = 0.39, *p* < 0.01), job accommodation (*b* = 0.38, *p* < 0.01), and resilience (*b* = 0.24, *p* < 0.01). Higher quality of *LMX* was negatively associated with lower levels of presenteeism (*b* = -0.17, *p* < 0.01).

Disability severity was negatively related to job satisfaction (*b* = -0.27, *p* < 0.01) and resilience (*b* = -0.14, *p* < 0.01), and positively related to presenteeism (*b* = 0.51, *p* < 0.01). The relationship between disability severity and

job accommodation was not significant. A summary of direct and indirect effects is presented in the lower part of Table 2. In support of Hypothesis 5, the indirect effects of perceived disability on the outcomes via LMX were significant for all four outcomes: job satisfaction [$b = -0.09$; 95% CI (-0.149, -0.036)], job accommodation [$b = -0.09$; 95% CI (-0.150, -0.033)], resilience [$b = -0.05$; 95% CI (-0.096, -0.019)], and presenteeism [$b = 0.04$; 95% CI (0.008, 0.077)].

Sample 2

Prior to examining our hypotheses, we performed a series of CFAs. We used content-based parceling on the three major variables that had a relatively large number of items

(perceived disability, LMX, and job accommodation). All error terms were independent, and all items or parcels loaded on a single latent construct. The expected 4-factor model fit the data well, $\chi(146) = 371.44, p < 0.001, CFI = 0.91, TLI = 0.89, RMSEA = 0.08$. The hypothesized model provided a significantly better fit than the 3-factor model (outcomes variables grouped together), $\Delta\chi(3) = 279.36, p < 0.01$ [$\chi(149) = 650.80, p < 0.001, CFI = 0.81, TLI = 0.76, RMSEA = 0.12$] and the 1-factor model (all 4 factor items grouped together), $\Delta\chi(6) = 830.39, p < 0.01$ [$\chi(152) = 1,201.83, p < 0.001, CFI = 0.60, RMSEA = 0.18$].

Table 3 displays means, standard deviations, and intercorrelations among the variables in Sample 2.

Table 4 details the results for Sample 2. Hypothesis 2 was not supported by our analysis. The relationship between

Table 3 Means, standard deviations, and correlations: sample 2 (supervisor perspective)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	34.27	10.04								
2. Gender	1.43	0.50	0.04							
3. Frequency of communication	5.85	1.16	0.07	0.00						
4. Tenure with employee	4.05	1.53	0.41**	0.05	0.30**					
5. Perceived employee disability	3.93	0.79	0.03	0.06	0.10	0.22**	(0.87)			
6. LMX	5.40	1.21	0.16*	0.14*	0.42**	0.32**	0.22**	(0.96)		
7. Job accommodation	4.43	1.21	0.02	0.10	0.15*	0.16*	0.12	0.39**	(0.91)	
8. Performance	5.56	1.16	0.15*	0.11	0.45**	0.30**	0.01	0.67**	0.12	(0.93)

Cronbach's alphas appear in parentheses on the diagonal

$N = 224$, LMX leader-member exchange

* $p < .05$; ** $p < .01$

Table 4 Direct and indirect effects of perceived employee disability on the outcomes: sample 2 (supervisor perspective)

	LMX (M)	JAS (Y1)	Performance (Y2)
	$R^2 = .27^{**}$	$R^2 = .06^*$	$R^2 = .15^{**}$
	b (SE)	b (SE)	b (SE)
Frequency of interaction	0.41** (0.08)	0.15 (0.08)	0.01 (0.09)
Gender	0.26 (0.16)	0.15 (0.18)	0.06 (0.17)
Tenure	0.15** (0.05)	0.08 (0.06)	0.03 (0.06)
Perceived employee disability (Y)	0.26* (0.10)	0.16 (0.11)	0.07 (0.11)
LMX (M)			0.34** (0.08)
Summary of total, direct, and indirect effects		JAS	Performance
		Point estimate (95% CI)	Point estimate (95% CI)
Total effect of perceived disability on outcomes		0.16 (-0.066, 0.387)	-0.13 (-0.319, 0.054)
Direct effect of perceived disability on outcomes		0.07 (-0.147, 0.292)	-0.25 (-0.405, -0.095)
Indirect effect of perceived disability on outcomes		0.09 (0.004, 0.181)	0.12 (-0.014, 0.252)

Confidence intervals of indirect effects are based on 5000 bias-corrected bootstrap samples. Unstandardized coefficients are reported

$N = 186$ (listwise deletion), X independent variable, M mediator, $Y1$ - $Y2$ dependent variables, LMX leader-member exchange, JAS job accommodation scale, CI confidence interval

* $p < .05$; ** $p < .01$

supervisors' perceptions of employee disability severity and LMX was significant; however, it was contrary to the hypothesized direction. Perceptions of employee disability severity was positively related to LMX quality ($b=0.26$, $p<0.05$). In support of Hypothesis 4 LMX was significantly and positively related to provided job accommodation ($b=0.34$, $p<0.01$), and supervisor-rated employee performance ($b=0.54$, $p<0.01$). When adjusting for the quality of LMX, perceived employee disability severity was negatively related to performance ($b=-0.25$, $p<0.01$). A summary of direct and indirect effects is presented in the lower part of Table 4. In partial support of Hypothesis 5, there was a significant indirect effect of perceived disability on job accommodation via LMX ($b=0.09$; 95% CI [0.004, 0.181]).

Discussion

The purpose of this study was to examine how disability severity is associated with the quality of supervisor–employee relationships, and how these relationships were in turn related to job satisfaction, job accommodation, resilience, presenteeism, and supervisor-rated performance. Given that employees with disabilities experience lower job satisfaction [1], negative attitudes toward accommodation requests [5], and low performance evaluations [3], it is essential to understand factors that contribute to better work outcomes for this group. This research has demonstrated the importance of supervisor–employee relationships in providing job accommodation, decreasing presenteeism, and increasing job satisfaction and resilience for employees with musculoskeletal disabilities.

Our findings indicate that disability severity relates to worsened work experiences for the employees. Higher levels of disability are associated with lower job satisfaction. These results are consistent with previous research on the effects of disability on employee job satisfaction [1]. Our findings also demonstrate that employees with higher levels of disability severity are more likely to engage in presenteeism suggesting employees with disabilities may feel pressure to come to work and perform even when they are not feeling well. Although some employers might regard presenteeism as a sign of commitment and participation in paid work, high levels of presenteeism may be particularly damaging for employees with musculoskeletal disabilities as it may result in exacerbating the disability condition. Furthermore, disability severity is associated with lower levels of resilience among employees with musculoskeletal disabilities. Resilience is often viewed as a personality trait; however, recent research demonstrates that life circumstances and working conditions can shape resilience [41]. Interestingly, disability severity was not directly related to provided job accommodation from both employee and supervisor perspectives. This

finding suggest that provided job accommodation might be contingent upon other factors (e.g., willingness to accommodate an employee) and is not always driven by the necessity. It is also important to highlight that when adjusting for LMX quality, perceived employee disability severity was negatively related to supervisor-rated performance from the supervisor perspective. This finding is consistent with previous research that demonstrated low performance evaluations for employees with disabilities [3].

Inadequate job accommodation can serve as a barrier to successful employment for employees with disabilities. Schur et al. [42] demonstrated that most accommodations are inexpensive and yield direct and indirect benefits for both employees with disabilities and employers. However, findings from a nationally representative survey of Americans with disabilities have shown that 48% of employed individuals receive some form of job accommodation, and only 45% are satisfied with the provided accommodation [43]. The results from both samples show while disability severity does not directly relate to increased job accommodation, the quality of supervisor–employee relationships is positively associated with provided job accommodation. Hence, high-quality relationships play a vital role in providing accommodations for employees with disabilities. In addition to better job accommodation, employees who have higher levels of supervisor–employee relationships are also less likely to engage in presenteeism, have higher levels of job satisfaction and resilience, and receive better performance ratings.

By testing a mediation model, we have demonstrated that the quality of supervisor–employee relationships is essential to work outcomes for employees with disabilities from both employee and supervisor perspectives. From the employee perspective, LMX mediated the relationships between disability severity and all four outcomes (i.e., job satisfaction, job accommodation, resilience, and presenteeism). Thus, the negative effects of disability severity on employee work outcomes (i.e., reduced job satisfaction and resilience, and increased presenteeism) can be explained by decreased quality of LMX. Thus, improving the quality of employee–supervisor relationships can be a fruitful avenue for bettering work employees for employees with disabilities. From the supervisor perspective, the mediation hypothesis received partial support. High-quality supervisor–employee relationship mediated the relationship between perceived employee disability and job accommodation, suggesting that job accommodation could be further enhanced when employees with disabilities have high-quality relationships with their supervisors. We discuss the role of employee–supervisor relationship as well as practical implications in detail below.

In addition to similarities between employee and supervisor perspectives, the two samples highlighted differences. More specifically, disability severity was associated with lower LMX quality from the employee perspective, while we

found a positive relationship from the supervisor perspective. Findings from the employee perspective are consistent with previous research that demonstrated that employees with disabilities report lower levels of perceived supervisory support compared to their non-disabled colleagues [44]. However, results from the supervisor perspective revealed a different pattern contradicting previous research that found that employee's disability status negatively related to supervisor evaluations [13, 45]. The positive association between employee disability severity and LMX quality should be viewed with caution. As cross-sectional studies do not test causality, there is a possibility of a reverse causality. Supervisors who have high-quality relationships with their employees, may be more aware of their employees' disability condition and its symptoms. Research on disability disclosure has highlighted the importance of having supportive relationships with the supervisor [46, 47]. Given that employees with disabilities have concerns about being fired or treated differently when deciding whether to disclose the disability status to the supervisor [48], employees who have low-quality relationships might be hesitant to disclose information about the severity of their condition. Moreover, the current study focused on musculoskeletal disabilities which are often not visible; hence, the supervisor often learns about the disability from the employee. It is also possible that more severe disability conditions could evoke an empathic response from the supervisor. In turn, empathy can be an effective tool to improve attitudes towards individuals with disabilities [48] and foster higher quality LMX [12].

Implications for Theory and Practice

By incorporating two research streams—disability and leadership—this study provides important theoretical and practical implications. Although numerous studies have been conducted to examine the antecedents and consequences of LMX [16], limited attention has been paid to the role of leadership in a disability context. To our knowledge, there have been no empirical studies of the relationship between LMX and job accommodation, resilience, and presenteeism. This study examined the above-mentioned outcomes providing empirical support for these relationships and, hence, extending both disability and leadership research. Another contribution comes from the operationalization of disability. Disability has often been treated as a dichotomous variable [49]. This research contributes to the current body of literature by examining disability as a continuous variable. The results supported the conclusion that disability is not an all-or-nothing phenomenon [50]. By examining perceptions of disability severity using a regression-based approach, we have demonstrated that a degree of disability is related to various employee outcomes. Finally, the current findings add to both disability and leadership areas by examining

the central role of supervisor–employee relationships. Our results demonstrate that for employees with disabilities the relationships with their supervisors play an important role in determining such essential outcomes as improved job satisfaction, higher levels of job accommodation and resilience, and reduced presenteeism.

Our findings also provide a number of practical implications. We demonstrated that disability severity is associated with lower levels of job satisfaction, resilience, and higher levels of presenteeism from the perspective of employees with disabilities. Empirical research has well documented that individuals with stigmatized identities (e.g., persons with disabilities, females, ethnic minorities) experience stereotype threat that damages how they view themselves and has significant negative implications on affective and behavioral outcomes [51, 52]. Thus, employees with disabilities could highly benefit from social support provided by their supervisors. The results of our study highlighted the importance of LMX quality in improving work outcomes for employees with disabilities. We suggest a number of strategies that supervisors and/or organizations can implement to foster higher quality relationships between employees with disabilities and their supervisors. First, ingratiation behaviors have been shown to have a positive effect on LMX quality [13]; in particular, such ingratiation strategies as complementary other-enhancement (i.e., using compliments to improve self-esteem of another person) and conformity in opinion (i.e., highlighting opinion similarity) could improve how employees with disabilities view themselves. In addition, supervisors are often responsible for initiating interactions (i.e., role-making opportunities) with their employees; hence, by providing role-making opportunities and purposefully engaging employees with disabilities in various activities might have a positive effect on how employees view the quality of relationships with their supervisors. Finally, organizations could implement training for the supervisors who manage employees with disabilities. For instance, some intergroup contact and cooperation interventions appear to be effective in reducing stigma [53].

Limitations and Opportunities for Future Research

Despite theoretical and practical contributions, this research has some limitations. A primary limitation of the current study is its limited generalizability. The convenience sampling procedure and self-selected nature of this study could pose a potential bias. Moreover, both samples represented younger respondents, and there is a possibility that work experiences of older individuals are different. In both samples, we used self-reported measures, which could potentially inflate the relationships among variables due to the CMV. We attempted to mitigate this limitation by using some procedural remedies and conducting a

series of CFAs. When recruiting participants, we did not specify whether the disability condition had to be medically diagnosed. Having a medically diagnosed disability might have implications for provided job accommodation as employers have legal requirements to accommodate employees with disabilities in the presence of a medical diagnosis.

Another limitation stems from the examination of only one disability type: musculoskeletal disabilities. There are different types and categories of disability, including visible/invisible or mental/physical. The effect of disability on employee–supervisor relationships and subsequently on the outcomes may be different for different types of disability as different types of disabilities evoke different stereotypes with regard to behavioral expectancies [54]. For instance, individuals with psychiatric disabilities are generally viewed more negatively than people with physical disabilities [55] and performance expectations for employees with mental disabilities are lower than for those with physical disabilities [3]. Thus, future research should examine how different disability types affect employee–supervisor relationships and employee work outcomes.

Furthermore, we used a cross-sectional design to test the hypotheses. Cross-sectional designs do not allow conclusions regarding causality, and future research should consider using experimental and longitudinal designs to determine casual relationships. Finally, although we assessed the proposed model from two different perspectives, Sample 1 and Sample 2 were independent. Given this independence, there is a possibility that two samples reflect different working situations and conditions. Hence, the two samples might not be entirely comparable. We suggest that future studies collect data from matched pairs of leaders and their employees with disabilities. That would also allow an examination of the implications of congruence/incongruence of perceptions on disability severity and employee–supervisor relationships while controlling for potential differences in working settings.

Conclusion

In conclusion, the current paper extends existing disability and leadership research by demonstrating the relationships between perceived disability severity, supervisor–employee relationships, and employee work outcomes. Overall, our results partially supported the proposed theoretical model and highlighted the role of supervisor–employee relationship quality in a disability context.

Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee, and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all participants included in the study.

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