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Disclosure Decisions of Workers Living with a Chronic Health Condition Causing Disability at Work: Are Decisions to Disclose to Co-workers and Supervisors Different?

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Abstract

Purpose Individuals living with chronic physical or mental health/cognitive conditions must make decisions that are sometimes difficult about whether to disclose health information at work. This research investigated workers' decisions to not to disclose any information at work, disclosure to a supervisor only, co-workers only, or to both a supervisor and co-workers. It also examined personal, health, and work factors associated with disclosure to different groups compared to not disclosing information.

Methods Employed workers with a physical or mental health/cognitive condition were recruited for a cross-sectional survey from a national panel of Canadians. Respondents were asked about disclosure decisions, demographics, health, working experience, work context, and work perceptions. Multinomial logistic regressions examined predictors of disclosure.

Results There were 882 respondents (57.9% women). Most had disclosed to both co-workers and supervisors (44.2%) with 23.6% disclosing to co-workers only and 7% to a supervisor only. Age, health variability, and number of accommodations used were significant predictors of disclosure for all groups. Job disruptions were associated with disclosure to supervisors only and pain and comfort sharing were associated with co-worker disclosure.

Conclusion The findings highlight that disclosure to co-workers is common despite being an overlooked group in workplace disclosure research. Although many similar factors predicted disclosure to different groups, further research on workplace environments and culture would be useful in efforts to enhance workplace support.

Keywords Disclosure · Employment · Co-workers · Supervisors · Disability · Chronic disease

Introduction

More than one in five Canadians over the age of 15 years (27%) report living with a disability [1]. Employment rates for people with disabilities are lower than for people not living with a disability, and rates of job loss are higher [2–6]. In addition, more workers with disabilities report low-quality employment than workers without disabilities, including jobs that are precarious, underutilize skills, or that have little opportunity for advancement [7].

A challenge faced by many individuals living with chronic physical or mental/cognitive health conditions is whether to disclose personal health information to others. Research has mostly focused on a worker's disclosure decisions related to a supervisor or manager [8, 9]. Surveys indicate that between about one-quarter to half of persons living with a chronic health condition do not share any information about their health with their supervisor [9–11]. Very little research exists examining disclosure to co-workers and whether more workers are likely to share information with co-workers compared to a supervisor, or whether those who share with co-workers also share with their supervisors, or the extent to which some workers prefer not to share any information with their work colleagues. Sharing information and disclosure to co-workers is important to understand as some previous research finds that co-worker support is relatively common and associated with fewer job disruptions,

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informal help with job tasks, and being less likely to reduce work hours [10].

Theories describing disclosure decisions can provide a general framework for guiding our understanding of some of the factors that may be associated with communication decisions [12–15]. For example, the Disclosure Process Model (DPM) highlights approach-focused goals like building greater intimacy and trust and avoidance-focused goals like wanting to prevent social rejection and conflict in shaping disclosure decisions [13]. With a couple of exceptions, the DPM has not been extensively applied to disability and employment research [8, 9]. One study that looked at the workplace and people living with disabilities found that approach goals (e.g., wanting to build trust) were significantly associated with positive work outcomes (e.g., receiving support), whereas avoidance goals (e.g., absenteeism that led to being forced to disclose some information) were significantly associated with negative work outcomes (e.g., job stress) when disclosing to a supervisor [9]. A second study drawing on the DPM highlighted avoidance goals as important antecedents of decisions, including wanting to avoid prejudice and discrimination [8]. However, the DPM does not describe in detail other types of factors that may be associated with disclosure. Previous research into workers living with a disability gives some insight into potentially relevant factors. For example, some studies find that disclosure decisions are related to need like health severity or feeling forced to say something because of the impact of a disability on work (e.g., decreased productivity) [9–11]. Studies also highlight a worker's desire for support and understanding and perceptions of the workplace culture, perceptions of stigma, concerns about reputational damage, and issues of perceived job vulnerability and career planning as important in disclosure decision [9–11, 16–27]. Although these studies have not used the DPM approach/avoidance concepts for guidance, some variables like a desire for greater support and understanding may suggest approach goals, whereas variables like concerns about productivity losses and disruptions to work may reflect avoidance goals. Factors like condition type, demographics, and work context variables are not well characterized as either approach or avoidance goals and reflect different types of concepts that are important to understand.

Another gap in the workplace disclosure research is in our understanding of whether similar or different factors are associated with disclosure to co-workers and a supervisor when compared to the decision not to disclose at all. In the general support literature, studies find that positive co-worker working relationships and support are associated with a perceived positive workplace environment [28–31]. This suggests that, in some instances, more workers might be likely to share health information with at least some of their colleagues than not share information. They also may be more likely to share with a co-worker than their supervisor. However, co-workers are not often a part of an organization's formal accommodation policies for reasons of privacy and confidentiality. As a result, the literature has infrequently explored a worker's decision to disclose personal health information to their co-workers [10, 16], and we know little about the factors that may be associated with disclosing to them.

The purpose of this study was to investigate the extent to which workers living with a physical and/or mental health/cognitive condition causing disability at work chose not to disclose information about their condition to any colleagues compared to those who disclosed information to their supervisor only, co-workers only, or both their supervisor and co-workers. We also examined diverse factors associated with disclosure decisions. The literature is unclear about whether the type of health condition (e.g., physical, mental/cognitive, both), demographic factors (e.g., sex/gender, age, education, income), or working experience and context variables (e.g., union membership, job sector) will relate to disclosure. Some research suggests that those with mental health/cognitive conditions may be less likely to disclose health information [9] and that women may be more likely to share health information than men [32–34]. It may be that older workers are more likely to disclose as they are more likely to have greater tenure in their job or that workers with union membership may be more likely to disclose as they have greater job security [4, 18, 24]. Drawing on previous research and the DPM as a general guide we expect:

Hypothesis One Most respondents will have disclosed to at least one colleague compared to not disclosing to anyone. A greater percentage of workers with a disability will disclose to at least some co-workers than will disclose to their supervisor only [10].

Hypothesis Two Women and older workers will be more likely to disclose to at least some colleagues than men and younger workers [4, 18, 24, 32–34]. However, in general, demographic factors will not be significant predictors of disclosure when health, work context, and work perceptions are considered.

Hypothesis Three Variables that reflect a need to disclose like living with both a physical and mental health condition, greater pain, stress, and health variability will be associated with disclosing compared to not disclosing. We expect this will be true of disclosure to a co-worker, a supervisor, and disclosure to both a co-worker and supervisor compared to not disclosing.

Hypothesis Four Using workplace supports or accommodations or having impacts on one's job like work productivity

losses, job disruptions, and absenteeism is expected to be associated with disclosing to supervisors compared to not disclosing, as many supports require permission before they can be implemented and work impacts may force a worker to explain their work difficulties [9].

Hypothesis Five Perceptions of one's workplace as being a place where one can share information will be associated with disclosing information to colleagues compared to not disclosing information. This will be true for co-workers only and for disclosure to both co-workers and supervisors. Similarly, perceiving one's organizational policies as fair and having greater job control is expected to be associated with disclosure compared to not disclosing and will be associated with disclosure to co-workers only and to both co-workers and supervisors.

Methods

Study Design and Respondents

Respondents were recruited for an online cross-sectional survey from a pre-existing national panel of over 1,000,000 Canadians that was created to be nationally representative by region and socioeconomic status [9]. Data were collected in October of 2018 and included participants with a physical, mental health/cognitive conditions that created limitations at work (i.e., disability) as well as respondents without a disability [9, 35]. Other criteria were being 18 years of age or older, working ≥ 15 per week, and having sufficient English language fluency to complete the questionnaire. Similar percentages of respondents were recruited in three age groups (18–35 years, 36–50 years, greater than 50 years). Among individuals meeting study eligibility and agreeing to participate there was an 88% participation rate. Informed consent was obtained from all respondents. Because the focus of this study was on disclosure decisions and factors associated with disclosure compared to non-disclosure, it only included respondents with a chronic condition causing some disability at work (49.8% of the total sample). Data from the survey have been used in other studies with diverse foci, including examining age, job tenure and disability in precarious work [35], reasons for disclosure and non-disclosure [9], sex/gender interactions and unmet accommodation needs [36], and a new measure of participation [37]. Ethics approval was received from the University of Toronto Research Ethics Board [REB#36184]. A secondary approval and amendment for this study was approved in June 2021.

Measures

Disclosure

Respondents were asked, "Have you talked to any of your co-workers about any limitation you have that might affect your work that are related to your health or disability?" and "Have you talked to your immediate supervisor/manager about any limitations you have that might affect your work that are related to your health or disability?" Response categories for disclosure to co-workers were 1 = none of my co-workers, 2 = some of my co-workers, 3 = most of my co-workers, 4 = all my co-workers, and 5 = not Applicable (I don't have co-workers). Responses for supervisor disclosure were Yes/No. We combined the responses to create a variable with four categories: 1 = no disclosure to co-workers or supervisor, 2 = disclosure to co-workers only, 3 = disclosure to supervisor only, and 4 = disclosure to co-workers and supervisor.

Demographics

Respondents were asked about their age (year of birth), sex/gender, education, marital status, and income. Sex/gender categories were male, female, or "I do not identify with either of the above, I identify as [open ended response]." This variable was labeled as sex/gender to take into consideration to the social differences captured by this category. Education was combined into four categories: 1 = high school diploma or less, 2 = some college/university, 3 = post-secondary degree/diploma, and 4 = unsure. Marital status categories were 1 = married or living as married, 2 = widowed, divorced, and separated, and 3 = never married. Income was coded into 1 = $0-$49,000, 2 = $50,000-$89,999, 3 = Greater than $90,000, and 4 = declined to answer/did not know.

Health and Disability

Disability Type

Questions about disability were based on the Disability Screening Questions (DSQ) from Statistics Canada [38]. Five items asked respondents about the degree of difficulty they experienced with work activities related to seeing or hearing; walking, using stairs, hands fingers, or other physical activities; learning, remembering, or concentrating; emotional, psychological, or mental health/cognitive conditions; and other health problems or long-term conditions that are expected to last six months or more. Questions were altered slightly from the original DSQ questions to focus on employment. Responses were 0 = no, 1 = some,

2 = often, and 3 = always. If respondents answered at least some difficulty with activities in response to any of the questions, they were categorized as working with a disability. Responses were combined into physical health conditions, mental health/cognitive conditions, and both physical and mental health/cognitive conditions.

Health Variability

Respondents were asked, "To what extent have you had variable health problems (times of good and bad health) over the past 3 months?" Responses were on a five-point Likert scale (1 = not at all, 5 = a great deal).

Pain

Using an 11-point response scale (0 = no pain, 10 = worst possible pain), respondents were asked to indicate the number that best represented the pain they had experienced during the past month.

Working Experiences and Work Context Factors

Union Membership

Respondents were asked whether they were a member of a union or a professional/managerial society that acts as a bargaining unit (Yes/No).

Changed Job (in Past Year)

Respondents were asked, "In the past year, have you changed your job or type of work you do as a result of your health or disability?" (Yes/No).

Number of Days Absent (in Past 3 Months)

Absenteeism days was measured with, "In the past 3 months, how many days in total were you absent from work related to your health or a disability, including time off because of appointments (but not including vacation days, holidays or your normal days off)?".

Worker Perceptions

Perceived Work Stress

A single item measured work stress. Respondents were asked, "In the past three months, would you say most days at work have been…" with a five-point response key from 1 = not at all stressful to 5 = extremely stressful.

Job Control

Respondents were asked, "to what extent do you have control over your work schedule and how you do your work?" Responses were on a five-point Likert-type scale where 1 = not at all and 5 = a great deal.

Work Productivity Losses

The Work Productivity and Activity Impairment Questionnaire (WPAI) measured the impact of health on workplace productivity [39, 40]. Respondents were asked, "During the past seven days, how much did your health or a disability affect your productivity while you were working?" Responses were on an 11-point scale where 0 = health/disability has no effect on my work and 10 = health/disability completely prevented me from working.

Job Disruptions

The 7-item Job Disruptions Index measured the impact of a health condition on different aspects of working [10]. Items asked, "In the past 6 months, have any of the following job-related changes happened to you because of your health or a disability?" Example questions included being unable to attend meetings or training, being unable to take on extra work or projects, arriving late, leaving early, and having one's health/disability interrupt the workday for at least 20 min. Responses were Yes/No/Not applicable. A total score was created by summing the items. Not applicable items were scored as "No."

Perceived Comfort with Sharing Personal Information at Work

Respondents were asked, "To what extent are you comfortable sharing personal information about your life with people in your workplace?" Responses were on a five-point, Likert-type scale where 1 = not at all comfortable and 5 = extremely comfortable.

Perceived Fairness of Accommodations Policies

Respondents were asked, "Do you feel that policies and practices concerning accommodations or modifications at your workplace are administered fairly by supervisors/managers?" Responses were 1 = not at all, 2 = a little, 3 = somewhat, 4 = quite a bit, and 5 = a great deal.

Total Supports/Accommodations Used

Respondents were asked about 12 different types of accommodations, benefits, and support policies that might be

available in their workplace and whether they had used them (Yes/No). They were prescription drug coverage, extended health benefits, worker assistance programs, flexibility in work schedules, modified job duties, work from home arrangements, an accessible workplace, workstation adaptations, assistive devices or technology, facilities at work to manage health, informal modifications of work, communication adaptations, and other accommodations. A total score was created by summing items with a "Yes" response.

Statistical Analyses

Descriptive statistics (i.e., frequencies, means, SDs) were used to examine item responses and distributions. Continuous variables were checked for normality including skewness and kurtosis. Categorical variables were re-coded as needed to ensure sufficient group numbers for further analysis. Pearson's correlations were used to examine the relationships between items and to identify potentially highly correlated items (i.e., multicollinearity) prior to multivariable analyses. Bivariable analyses (chi-squares, ANOVAs) was used to examine differences in demographic, health and disability, working experiences and work context, and worker perception items with the four disclosure categories (no disclosure; disclosure to co-workers only; disclosure to supervisor only; disclosure to co-workers and supervisors). Sex/gender and age were included in multivariable analyses as control variables.

Multinomial logistic regression was used to examine the association between demographics, health and disability, working experiences and work context, and worker perceptions variables and the disclosure groups (no disclosure to any colleagues, disclosure to co-workers only, disclosure to supervisors only, disclosure to both co-workers and supervisors). The reference group for the analyses was the "no disclosure" category. Reference groups for disability type, sex/gender, union membership and changed job in past year were physical and mental/cognitive disability, female, and yes to union membership and yes to changed job in past year. The final model includes all groups (demographics, health and disability, working experiences and work context factors, and worker perceptions). Odds ratios and 95% confidence intervals are reported. Data were analyzed using the Statistical Analysis System (SAS) software (SAS/STAT User's Guide, Version 9.3, 2012 & Version 9.4, 2013).

Results

Table 1 presents sample characteristics for the 882 study respondents. Just over half of respondents (57.9%) were women and the sample had a mean age of 42.8 years. Almost 50% of respondents had a post-secondary education. Over half the sample (54.7%) were married and almost 40% of respondents reported an income of less than $50,000 annually, similar to other Canadian surveys [1]. Twenty-three percent of respondents reported a physical disability, 19.4% reported mental health/cognitive disability, and over half of respondents reported living with both a physical and mental health/cognitive disability (56.8%). Thirty four percent of respondents belonged to a union. Respondents reported working in a range of sectors with the greatest percentage of respondents working in education, health, sciences, arts, and professional jobs (33.5%). About 50% of respondents were employed in large organizations with over 150 workers.

Respondents were absent an average of 3.8 days of work in their last three months of employment and 13.7% had changed jobs in the previous year due to their health condition/disability. Respondents reported modest levels of stress, job control, comfort sharing information, and perceived fairness of accommodation policies. Most respondents did not report that their health had a large impact on their work productivity (mean = 3.7) and the average number of job disruptions was relatively low (mean = 1.8, SD = 1.9). Respondents reported using an average of 4.9 supports/accommodations, the most frequent being the use of prescription drug coverage, other extended benefits, and flexibility in work scheduling and the least frequent use being work from home or teleworking arrangement, modified job duties, and communication adaptations. As expected in hypothesis one, most participants had disclosed to at least some of their colleagues. Only one-quarter (25.2%) of the sample had not disclosed to either their co-workers or supervisors. Moreover, only, 7% of participants had disclosed to their supervisor only, with most participants disclosing to either their co-workers only (23.6%) or both co-workers and their supervisor (44.2%). When looking in more detail at the frequencies of disclosure to co-workers, 32.2% of respondents reported disclosing to none of their co-workers, 49.7% to some of their co-workers, and 18.1% of respondents reported disclosing to most or all of their co-workers.

Tables 2 and 3 present bivariate analyses between demographic, health and disability, working experiences and work context, and worker perceptions variables and the disclosure groups. Hypothesis two was partially confirmed in that being older was associated with disclosure, especially to a supervisor only $F\,(3, N = 876) = 4.21$ $p < 0.01$. Women were not more likely to disclose to a colleague than men and, as expected, demographic factors like education, marital status, and income were not significantly associated with disclosure decisions. Instead, work context and work perceptions were more likely to be related to disclosure in bivariate analyses. Specifically, disclosure decisions differed by type of disability, with the greatest percentage of respondents disclosing when they lived with both a physical and mental health/

Table 1 Sample characteristics ($n=882$)

Sample characteristics ($n=882$)	Mean ± (SD)/n (%)
Disclosure	
No disclosure to co-worker or supervisor	221 (25.2)
Disclosure to co-worker only	206 (23.6)
Disclosure to supervisor only	61 (7.0)
Disclosure to co-worker and supervisor	388 (44.2)
Demographic factors	
Sex/gender (female)	519 (57.9)
Age (years)	42.8 (12.9)
Education	
High school diploma or less	189 (21.5)
Some college/university	266 (30.2)
Post-secondary degree	425 (48.3)
Marital status	
Married or living as married	481 (54.7)
Widowed, divorced, separated	122 (13.9)
Never married	277 (31.5)
Income	
$0–$49,000	341 (38.7)
$50,000–$89,999	299 (33.9)
$90,000 +	198 (22.5)
Declined to answer/don't know	43 (4.9)
Health and disability factors	
Disability Type	
Physical	210 (23.8)
Mental health/cognitive	171 (19.4)
Physical and mental health/cognitive	501 (56.8)
Health variability (1–5)	2.5 (0.9)
Pain (1–10)	3.9 (2.8)
Working experience and work context factors	
Union membership	299 (34.0)
Job sector	
Financial, insurance, business, technology, government	199 (22.7)
Education, health, sciences, arts, professional	294 (33.5)
Sales, services, retail	189 (21.6)
Construction, utilities, agriculture, manufacturing	195 (22.3)
Work hours	37.3 (7.9)
Size of organization	
1–50	207 (25.5)
51–150	181 (20.5)
150 +	447 (50.7)
Changed job in past year due to health/disability	120 (13.7)
Days absent due to health/disability (past 3 months)	3.8 (4.7)
Worker perceptions	
Perceived work stress (range 1–5)	3.1 (1.0)
Job Control (range 1–5)	2.7 (1.2)
Work productivity losses (range 0–10)	3.7 (2.9)
Job disruptions (range 0–7)	1.8 (1.9)
Comfort sharing information at work (range 1–5)	2.5 (1.1)
Perceived fairness of accommodations policies (range 1–5)	2.9 (1.3)
Total supports/accommodations used (range 0–12)	4.9 (4.0)

Table 1 (continued)

n's may vary due to missing data
SD Standard deviation, *n* sample size

Table 2 Chi-square bivariate analyses examining the association between disclosure and demographic, health and disability, working experiences, and work context ($n = 882$)

Characteristics	No disclosure to co-worker or supervisor $n = 221$	Disclosure to co-worker only $n = 207$	Disclosure to supervisor only $n = 61$	Disclosure to co-worker and supervisor $n = 388$	*p* value
	n (%), *Mean* (*SD*)	*n* (%), *Mean* (*SD*)	*n* (%), *Mean* (*SD*)	*n* (%), *Mean* (*SD*)	
Demographics					
Sex/gender (female)	122 (55.2)	129 (62.3)	33 (54.1)	224 (57.7)	0.5
Education					
High school diploma/less	46 (20.8)	52 (25.1)	12 (19.7)	79 (20.4)	0.81
Some college/university	68 (30.8)	58 (28.0)	16 (26.2)	123 (31.7)	
Post-secondary degree	107 (48.4)	96 (46.4)	32 (52.5)	186 (47.9)	
Marital status					
Married or living as married	120 (54.3)	113 (54.6)	32 (52.4)	213 (54.9)	0.97
Widowed, divorced, separated	29 (13.1)	33 (15.9)	8 (13.1)	52 (13.4)	
Never married	72 (32.6)	60 (29.0)	20 (32.7)	123 (31.7)	
Income					
$0–$49,000	85 (38.5)	78 (37.7)	25 (41.0)	151 (38.9)	0.57
$50,000–$89,999	75 (33.9)	74 (35.7)	20 (32.8)	128 (33.0)	
$90,000 +	51 (23.1)	42 (20.3)	10 (16.4)	94 (24.2)	
Declined to answer/don't know	10 (4.4)	13 (6.3)	6 (9.8)	14 (3.6)	
Health and disability factors					
Disability					
Physical	58 (26.2)	53 (25.6)	22 (36.1)	77 (19.8)	.001
Mental health/cognitive	63 (28.5)	39 (18.8)	10 (16.4)	58 (14.9)	
Physical and mental health/cognitive	100 (45.2)	115 (55.6)	29 (47.5)	253 (65.2)	
Working experience and work context factors					
Union membership	63 (28.5)	67 (32.4)	21 (34.4)	148 (38.1)	0.1
Job sector					
Financial, insurance, business, technology, government	50 (22.6)	38 (18.4)	16 (26.2)	93 (24.0)	0.48
Education, health, sciences, arts, professional	69 (31.2)	79 (38.2)	17 (27.9)	128 (33.0)	
Sales, services, retail	49 (22.2)	39 (18.8)	18 (29.5)	81 (20.9)	
Construction, utilities, agriculture, manufacturing	52 (23.5)	49 (23.7)	10 (16.4)	84 (21.6)	

n's may vary due to missing data. Chi-square analyses were performed

cognitive condition. In these instances, respondents were most likely to disclose to both co-workers and supervisors, $\chi 2\ (6, N = 877) = 31.95\ p < 0.001$. Compared to a physical condition or both a physical or mental health/cognitive condition, fewer respondents had disclosed when they had a mental health/cognitive condition. Respondents with greater health variability were more likely to disclose to both co-workers and supervisors $F\ (3, N = 876) = 26.13$ $p < 0.001$. Health variability being significantly lower in the no disclosure group compared to all other groups. Similarly, respondents in the no disclosure group reported significantly less pain than the other disclosure groups $F\ (3, N = 871) = 24.49\ p < 0.001$.

There were few differences in disclosure associated with working experiences and work context factors (see Table 2 and 3). Among workers who had changed jobs within the last year due to their disability/health condition, a greater percentage had disclosed their health condition/disability to both their supervisor and co-workers (19.3%) or to their supervisor only (16.4%) compared to

Table 3 Analysis of variance bivariate tests examining the association between disclosure and demographic, health and disability, working experiences and work context, and worker perceptions ($n = 882$)

Characteristics	No disclosure to co-worker or supervisor $n = 221$	Disclosure to co-worker only $n = 207$	Disclosure to supervisor only $n = 61$	Disclosure to co-worker and supervisor $n = 388$	p value
	n (%), *Mean* (*SD*)	*n* (%), *Mean* (*SD*)	*n* (%), *Mean* (*SD*)	*n* (%), *Mean* (*SD*)	
Demographics					
Age (years)	40.5 (12.0)	42.7 (13.2)$_b$	46.1(15.0)$_{b,c}$	43.7(12.7)$_c$	.01
Health and disability factors					
Health variability (1–5)	2.0 (0.9) $_a$	2.5 (0.8)$_{a,b,d}$	2.5 (1.0) $_{b,c}$	2.7 (1.0) $_{c,d}$	.001
Pain scale (1–10)	2.6 (2.5) $_a$	4.2 (2.6) $_{a,b}$	3.7 (2.8) $_{b,c}$	4.5 (2.8)$_c$	.001
Working experience and work context factors					
Work hours	37.4 (7.5)	37.3 (7.4)	36.2 (9.4)	37.4 (8.1)	0.75
Days absent due to health/disability (last 3 months)	2.2 (3.7)	2.9 (4.1) $_d$	3.2 (5.2)$_{c,e}$	5.3(5.5)$_{c,d,e}$	.001
Worker perceptions					
Perceived work stress (range 1–5)	3.0 (1.0)	3.1 (0.9)	3.0 (1.2) $_c$	3.1 (1.0) $_c$	.05
Job control (range 1–5)	2.5 (1.3)	2.7 (1.1)	2.6 (1.3)	2.8 (1.2)	.06
Work productivity losses (range 0–10)	2.8 (2.8) $_a$	3.5 (2.6) $_{a,d}$	2.7 (2.7) $_{c,e}$	4.5(2.9)$_{c,d,e}$	.001
Job disruptions (range 0–7)	1.0 (1.6) $_a$	1.5 (1.8) $_{a,d}$	1.6 (2.0) $_{c,e}$	2.3(2.0)$_{c,d,e}$	.001
Comfort sharing information at work (range 1–5)	2.1 (1.0) $_a$	2.4 (1.0) $_{a,d,f}$	1.8 (1.0) $_{c,e,f}$	2.8(1.0)$_{c,d,e}$	.001
Perceived fairness of accommodations policies (range 1–5)	2.7 (1.2)	2.8 (1.2)$_d$	2.9 (1.2) $_c$	3.1 (1.3) $_{c,d}$	.01
Total supports/ accommodations used	3.2 (3.5) $_a$	5.0 (4.1) $_{a,d}$	4.2 (3.8) $_{c,e}$	5.9(4.0)$_{c,d,e}$	.001

n's may vary due to missing data. Analyses of variance (ANOVAs) were performed. Tukey tests further examined mean differences among disclosure groups ($p < .05$)

[a]No disclosure to co-worker and supervisor group differs from disclosure to co-workers only group

[b]No disclosure to co-worker and supervisor group differs from disclosure to supervisor only group

[c]No disclosure to co-worker and supervisor group differs from disclosure to co-workers and supervisor group

[d]Disclosure to co-workers and supervisor group differs from disclosure to co-workers only group

[e]Disclosure to co-workers and supervisor group differs from disclosure to supervisor only group

[f]Disclosure to co-workers only group differs from disclosure to supervisor only group

co-workers only (9.7%) $\chi 2$ (3, $N = 871$) = 23.36 $p < 0.001$. Greater absenteeism was associated with disclosure to both co-workers and supervisors $F(3, N = 876) = 22.93$ $p < 0.001$. Apart from job control, worker perceptions variables were significantly associated with differences in the disclosure groups. Specifically, those who had not disclosed reported significantly less stress, greater work productivity losses, fewer job disruptions, greater comfort sharing information, greater perceived fairness of accommodation policies, and had used fewer supports/accommodations compared to those who had disclosed to both their co-workers and supervisors (p's range from < 0.05 to < 0.001). Other differences were also significant, with higher job stress, less productivity losses, more job disruptions, greater comfort sharing, greater perceived fairness, and support/accommodation use being greater being associated with disclosing to both co-workers and a supervisor compared to the other disclosure groups.

Table 4 presents the multinomial logistic regression results. Only items that were significant in the bivariate analysis at $p < 0.1$ were included in the multinomial logistic regression. Because the disclosure to supervisors only group was relatively small ($n = 61$), which limited the statistical power for analyses, findings for this group are exploratory only. The reference category for analyses was no disclosure to either a supervisor or co-workers. Age continued to be a significant predictor of disclosure versus non-disclosure and was significantly associated with disclosing to all groups of colleagues. Some support was found for hypothesis three that predicted variables reflecting greater need would be associated with disclosure versus non-disclosure. Specifically, greater health variability was associated with disclosure to all groups of colleagues compared to no disclosure, and pain was associated with disclosure to both co-workers and supervisors, as well as to co-workers only. However, there were no differences in disclosure by condition type

Table 4 Multinomial logistic regression model examining the association between study variables and disclosure for the total sample ($n = 882$)

	Disclosure to co-workers only vs. no disclosure ($n = 198$) OR (95% CI)	Disclosure to supervisor only vs. no disclosure ($n = 53$) OR (95% CI)	Disclosure to both co-workers/ supervisor vs. no disclosure ($n = 378$) OR (95% CI)
Demographics			
Sex/gender (female)	0.73 (0.47, 1.13)	0.85 (0.44, 1.64)	0.91 (0.60, 1.38)
Age	1.02 (1.0, 1.04)*	1.04 (1.02, 1.07)*	1.03 (1.02, 1.05)*
Health and disability factors			
Disability type			
Physical	0.99 (0.57, 1.70)	1.30 (0.59, 2.85)	0.73 (0.43, 1.24)
Mental health/cognitive	0.99 (0.56, 1.72)	1.17 (0.46, 2.96)	0.80 (0.46, 1.37)
Health variability	1.35 (1.01, 1.80)*	1.64 (1.08, 2.51)*	1.51 (1.15, 1.99)*
Pain	1.23 (1.17, 1.36)*	1.17 (0.96, 1.30)	1.13 (1.03, 1.24)*
Working experience and work context factors			
Union membership	0.87 (0.55, 1.39)	1.01 (0.51, 2.03)	0.81 (0.52, 1.26)
Changed job in past year	1.02 (0.45, 2.30)	0.48 (0.16, 1.40)	0.61 (0.30, 1.25)
Days absent due to health/disability	0.99 (0.97, 1.01)	1.00 (0.98, 1.03)	1.00 (0.98, 1.02)
Worker perceptions			
Perceived work stress	1.08 (0.85 1.37)	0.73 (0.50, 1.05)	1.16 (0.93, 1.46)
Job control	1.06 (0.88, 1.28)	1.03 (0.78, 1.36)	1.07 (0.89,1.27)
Perceived work productivity	0.95 (0.86, 1.05)	0.79 (0.67, 0.92)*	1.02 (0.93, 1.12)
Job disruptions	1.09 (0.93, 1.28)	1.37 (1.09, 1.72)*	1.36 (1.17, 1.56)*
Comfort sharing information at work	1.73 (1.36, 2.19)*	0.72 (0.49, 1.07)	2.60 (2.07, 3.28)*
Perceived fairness of accommodation policies	0.96 (0.80, 1.16)	1.12 (0.85, 1.49)	1.22 (1.02, 1.46)*
Total supports/accommodations used	1.12 (1.05, 1.19)*	1.10 (1.00, 1.22)*	1.11 (1.05, 1.18)*

Reference categories were sex/gender: female; disability type: both physical and mental health/cognitive disability, union membership: yes, changed job in past year: yes. *n*'s may vary due to missing data, *OR* odds ratio, *CI* confidence interval

*p value ($< .05$)

(physical condition, mental/cognitive condition, both a physical and a mental/cognitive condition).

Some support was also found for hypothesis four that predicted that using accommodations would be associated with disclosure versus non-disclosure. This variable was associated with disclosing to co-workers only, supervisors only, and to disclosing to both co-workers and supervisors. As expected, having greater job disruptions was also associated with disclosing compared to not disclosing. It was significantly associated with disclosing to a supervisor only or to both a co-worker and a supervisor. Unexpectedly, work productivity losses was negatively associated with disclosure to supervisors only such that those who disclosed to a supervisor only reported fewer productivity losses compared to those who had not disclosed at all.

Finally, support was found for hypothesis five that expected perceptions of the supportiveness of the workplace would be related to disclosure versus non-disclosure, especially for disclosure to co-workers. We found that comfort with sharing information was significantly associated with disclosure to co-workers only, as well as to both co-workers and supervisors. Perceived fairness of accommodation was significantly associated with disclosure to both co-workers and supervisors.

Discussion

Chronic conditions are on the rise in Canada and can contribute to disability in the workplace. The decision whether to disclose a disability to others in the workplace and the factors associated with that decision is an important area of study. This is one of the first studies to examine the decision not to disclose a disabling health condition compared with disclosure to different groups of colleagues, including co-workers which has been an overlooked group in previous research. As expected, we found that the greatest percentage of workers disclosed to both co-workers and supervisors with nearly a quarter of participants disclosing to co-workers only, although most respondents did not report disclosing to all their co-workers. This suggests that co-workers are an important group to consider in workplace communication and support processes. Only about a quarter of the sample

did not disclose to anyone and few participants disclosed to supervisors only.

We also showed that the factors that predicted disclosure compared to non-disclosure were often similar for co-workers and supervisors, regardless of whether a worker was disclosing to their supervisor or co-workers. This included our findings related to hypotheses that expected greater need would be related to disclosure, as well as hypotheses that the impact of a disability on work and use of greater accommodations would be related to disclosure. Variables like health variability, pain, job disruptions, and accommodation use were related to increased disclosure to both co-workers and supervisors. Also supporting our hypotheses, factors like being comfortable with sharing information (e.g., perceived supportiveness of colleagues) and perceptions of an organizational culture that has policies that are fair to all workers was related to disclosing to co-workers. At the same time, the findings were not always straightforward, highlighting the complexity of communication-support processes in workplaces, as well as the need to continue to include co-worker interactions as potential facilitators and barriers to workplace support.

We drew on DPM theory as an initial way to think about disclosure decisions, recognizing that workers may have approach and avoidance goals when deciding whether to disclose. Although we did not ask participants about their goals directly in this study, there was some utility in using the theory. Variables that might suggest a need to disclose in order to avoid a problem like pain and health symptom variability or the presence of negative impacts on work like job disruptions were associated with disclosure to all groups as we had hypothesized. In addition, variables that might support approach goals like the perceived fairness of policies also were significant predictors of disclosure to both co-workers and supervisors with greater comfort sharing information at work predicting disclosure to co-workers alone, as well as to both co-workers and supervisors. These findings were in line with our hypotheses. They also highlight the need for additional research using DPM theory to better illuminate the role of goals as factors related to decision-making.

Previous research with people working with disabilities has often focused on need factors to understand disclosure. As noted, the DPM theory can help expand our focus to goals. However, other work context and work perceptions are also important to include. For example, age was significantly associated with greater disclosure to both supervisors and co-workers. This may reflect greater tenure at a workplace and an established relationship with others leading older workers to be more comfortable sharing information at work [4, 18, 24]. Life course research suggests that age-normative perceptions about health may mean that older adults and their colleagues expect older workers to have more health challenges. Sharing some of this information with others may be seen as normative and as reflecting social benchmarks with less risk involved [41–45]. At the same time, some research also finds that older workers are concerned about potential reputational damage, which can act as a disincentive to disclosure and impacts to whom and what a worker shares [18]. Additional research is needed to understand how age may factor into the decision to disclose to co-workers, to whom workers disclose, and what specific information they share. For example, are older workers disclosing to colleagues of a similar age because they feel they may be able to relate to their health circumstances? Conversely, are younger workers with health conditions/disabilities disclosing less to their peers because their support needs do not necessarily reflect broad social understanding of their stage of life? Additional qualitative research is needed to understand the complexity posed by different aspects of a worker's identity, not only age, but also gender and cultural background.

Despite the finding that almost two-thirds of respondents had shared information about their health condition with at least some of their co-workers, co-workers are not often a part of the formal support practices within many organizations. This is due to privacy policies and the confidentiality protections provided to workers living with disabilities. Protection of workers' privacy is important. However, previous research shows that co-workers may be affected by accommodation and support processes like covering for their colleagues when they require time off or taking on aspects of their colleagues job tasks, as needed [19, 46, 47]. This can make the management of a work unit, the provision of support to workers, and the protection of privacy challenging to balance for organizations. Also important is that workers living with chronic health conditions can report having a range of positive and negative experiences after information about their health is shared with co-workers [10, 18, 19, 48, 49]. The finding in this study that so many respondents shared some health information with co-workers' points to the need for additional research to understand the impacts on an organization of largely excluding co-workers from the support process. Increasing training and awareness of the extent and impact of chronic health challenges on work for co-workers may be useful to improve the work experience of all workplace parties. In addition, more understanding is needed about the challenges organizations face when protecting privacy while also addressing co-worker and work team impacts in providing support, as well as the processes that may determine a positive versus negative disclosure interaction in the workplace.

Unexpectedly, reporting fewer productivity problems was associated with greater disclosure to a supervisor. Because the study is cross-sectional, we cannot infer a direction of the findings. The results also need to be replicated because of the small sample of workers that disclosed to supervisors

only in this study. It may be that, after disclosing to a supervisor, supports were put in place that improved productivity. There is also the possibility that some workers with a disability may have disclosed to their supervisor when all was going relatively well with managing their condition and it was not having an impact on their productivity. In those situations, a worker may have felt comfortable sharing some health details as a matter of information and to convey that there was not an impact or need to be concerned. Research, especially qualitative studies, that examine worker reasons for disclosure would be helpful in illuminating worker goals in disclosing, especially during periods of relatively good health when there are few impacts on employment.

There are several limitations to our study that need to be acknowledged. First, our data were collected in 2018, before the COVID-19 pandemic. Since 2018, many workplaces have shifted to a hybrid model with more work from home options alternating with attendance at a workplace. It is unclear whether the shift to remote work alters disclosure decisions. For example, the flexibility that many hybrid work situations provide may mean that workers experience fewer limitations and disclosure is less necessary. Future research could probe workers about demographic and working experiences and work context variables to understand whether they have a role in a worker's decision to disclose. In addition, the sample of respondents who disclosed only to a supervisor was small. This reduced statistical power, leaving some of our findings as exploratory. As well, the study focused on whether a disclosure event occurred. We do not know how much was disclosed, for what purpose, to whom and how often workers disclosed. Future research needs to take into consideration that disclosure is not always a singular event but is a process that can evolve and change with circumstances, including broader workplace policies and legislation [9, 13].

To conclude, disclosure of a health condition in the workplace is not uncommon, especially sharing some information with co-workers. A range of diverse factors are associated with disclosure, not just health needs. Our findings highlight the need for additional research on workplace disclosure decisions, especially consideration of how disclosure may be influenced by workplace culture and the role of different workplace parties like co-workers, supervisors, human resource professionals, and union representatives. Currently, individuals within an organization whose job it is to provide support, including organizational leadership, may be unaware of the extent of communication with co-workers and may want to better understand the potential role of co-workers in the disability-support process as they seek ways to sustain the employment of workers living with a health condition causing disability. A better understanding of this initial decision process, as well as outcomes of disclosure may help enhance support for workers with disabilities.

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Data Availability No datasets were generated or analyzed during the current study.

Declarations

Competing interests The authors declare no competing interests.

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