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Workplace wellness program interest and barriers among workers with work-related permanent impairments

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Abstract

Background: Nearly half of United States workers have access to workplace wellness programs (WWPs); 58% of workers with access participate. The aim of this study was to assess interest in WWP participation and identify reasons for lack of interest among workers with work-related permanent impairments—a population at elevated risk of adverse health outcomes.

Methods: Workers who returned to work after a work-related permanent impairment were interviewed 11 to 15 months after workers' compensation claim closure. Qualitative content analysis methods were used to code open-ended responses.

Findings: Of 560 respondents, 51.4% expressed interest in WWP participation. Numerous adverse health and economic characteristics were associated with WWP interest; e.g., interest was expressed by: 63.3% of workers reporting fair/poor health status, vs. 47.1% reporting good/excellent; 56.9% of workers reporting moderate/severe pain, vs. 41.4% reporting mild/no pain; 64.7% of workers without health insurance, vs. 50.1% if insured; 69.0% of workers reporting depression, vs. 47.2% without depression; 70.4% of workers reporting obesity, vs. 48.0% without obesity; and 63.2% of workers often worried about expenses, vs. 46.9% reporting sometimes/never worried. Specific participation barriers were described by 34.2% of the 272 workers not interested.

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Authors' contributions: J.M.S., A.T.E. and P.A.H. participated in the conception and design of the work, J.M.S. and D.F.K. participated in acquisition of data, J.M.S. and A.T.E. conducted the analysis, and J.M.S. and B.A.S. drafted the work. All five authors participated in interpretation of data and revising the work critically for important intellectual content, and provided final approval of the version to be published.

Ethical approval: All procedures followed were in accordance with the ethical standards of the institutional review board (University of Washington IRB Committee J; IRB00005647; FWA #00006878) and with the 1964 Helsinki declaration and its later amendments. All survey participants gave their informed consent prior to their inclusion in the study.

Declaration of Conflicting Interests: The Authors declare that there is no conflict of interest.

Conclusions/Applications to Practice: A majority of workers with work-related permanent impairments—particularly those with adverse health and economic characteristics—were interested in WWPs. Many workers who reported no interest cited participation barriers. Further research is needed to determine whether addressing such barriers would enhance equitable access. Those undertaking WWP planning, implementation, and outreach should ensure that WWPs are inclusive and serve workers with disabilities.

Keywords

workplace health promotion; work disability; access; health equity; occupational injuries

Background

Upon returning to work, workers with work-related permanent impairments, who account for roughly 10% of all injured workers, face elevated risks of further injury and work interruption related to unstable health, disability, and workplace factors (Sears, Fulton-Kehoe, et al., 2021; Sears, Schulman, et al., 2021a, 2021b). Nearly half of United States workers have access to workplace wellness programs (WWPs), which hold potential to improve health and employment outcomes, yet only 58% of workers with access choose to participate (Tsai et al., 2019). WWPs can play a key role in the Total Worker Health™ strategy that was launched by National Institute for Occupational Safety and Health (NIOSH) in 2011 (Schill & Chosewood, 2013). The Total Worker Health™ strategy advocates integration of workplace safety and workplace health promotion programs, as well as broader consideration of multiple factors that influence health and quality of life, in order to more comprehensively improve and support worker well-being (Chari et al., 2018; Schill & Chosewood, 2013).

Muir et al. (2019) suggests that workers who are healthier and more physically active are more likely to participate in WWPs. However, to enhance equitable access to WWPs, it is important to identify strategies to effectively engage all workers, including those with work-related permanent impairments and other disabilities. A small exploratory study of inclusive worksite wellness for workers with disabilities found that individual, social, and organizational factors all influence participation (Cook et al., 2016). Interest levels and barriers specific to workers with work-related permanent impairments are unknown. The aim of this study was to assess interest in WWP participation and identify reasons for lack of interest among injured workers with work-related permanent impairments. Understanding the factors associated with interest in and barriers to WWP participation can inform the design of inclusive, equitable, and accessible WWPs.

Methods

Study Design and Data Sources

The Washington State Department of Labor and Industries administers the workers' compensation (WC) system, which includes (1) the State Fund, covering about 70% of workers, and (2) self-insured employers, covering the remainder. If, after completing treatment, injured workers are able to work but have suffered permanent impairment (i.e.,

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permanent anatomic or functional abnormality or loss of function), their impairment may be rated for a permanent partial disability (PPD) award. Washington State workers with work-related permanent impairments were potentially eligible for this study if they had an accepted State Fund or self-insured WC claim that closed with a PPD award between January 1 and April 30, 2018. Workers were excluded if they had never worked after claim closure. Telephone interviews were conducted 11 to 15 months after claim closure, between February 6 and April 20, 2019. In total, 582 complete and 17 partial interviews were conducted, with a response rate of 53.8%, and negligible nonresponse bias. Further details regarding survey development, survey administration, detailed exclusion criteria with numbers of ineligible workers excluded for specific criteria, response rate calculation, and nonresponse bias assessment are available elsewhere (Sears, Schulman, et al., 2021b).

WWP interest was assessed by asking: “Would you be interested in participating in workplace-based programs or activities aimed at maintaining or improving your health and function?” The subset of workers who were not interested were then asked the open-ended question, “Why is that?” Trained interviewers recorded workers’ narrative responses.

Administrative data included age, gender, WC coverage (State Fund versus self-insured employer), and residence county, which was classified using the six-level 2013 National Center for Health Statistics Urban-Rural Classification Scheme for Counties (Ingram & Franco, 2014). All other covariates were obtained from the survey, and their collection and construction have been described in detail elsewhere (Edmonds et al., 2021; Sears, Edmonds, et al., 2021; Sears, Schulman, et al., 2021b; Sears, Schulman, et al., 2021).

Data Analysis

We excluded 22 workers who did not answer the question about WWP interest (3.8% of 582 completed interviews). Bivariate associations between each covariate and WWP interest were tested using Pearson’s chi-squared test (binary or categorical variables) or unequal variances *t*-test (ordinal scales or continuous variables), at a $p < .05$ significance level. All analyses were conducted using Stata/MP 15.1 for Windows (StataCorp LLC; College Station, TX).

Qualitative content analysis methods were used to code responses to the open-ended question regarding reasons for lack of interest. Following a content analysis approach (Hsieh & Shannon, 2005), and using Dedoose qualitative software (Dedoose Version 8.3.35, 2020), two coders (A.T.E. and J.M.S.) began the code development process by independently coding one-third of the responses. Codes were developed inductively, rather than by approaching these data with a priori frameworks. Each person’s response could be assigned more than one code. We then compared our code assignments and came to consensus on an initial coding scheme and codebook. The remaining responses were independently coded using this schema; discordant codes between coders were reviewed, and consensus on final codes was reached.

All survey participants gave informed consent. This study was approved by the University of Washington Human Subjects Division.

Results

Of the 560 included respondents, 51.4% expressed interest in WWP participation ($n = 288$), while 48.6% were not interested ($n = 272$). Of all respondents, 88.2% were working for pay when interviewed, 91.0% were born in the U.S., and 62.3% were covered by the State Fund (vs. a self-insured employer) for the injury resulting in permanent impairment; none of these characteristics varied notably or significantly by WWP interest. Respondents' mean age was 49.2 (SD: 11.7); workers who expressed interest in WWP participation were about 2 years younger on average than those not interested (mean difference: 2.1; 95% CI: 0.2, 4.1; $p = .032$). Table 1 presents further descriptive characteristics for the overall sample, along with bivariate associations with WWP interest. Most of these characteristics did not significantly differ by WWP interest; however, workers in the lowest income categories (< 40,000 USD) were significantly more likely to express interest in WWP participation (Table 1).

Respondents who reported poorer health status, poorer work functional status, more pain, more pain interference with work, higher perceived reinjury risk, and more difficulty getting or keeping a job due to their permanent impairment were substantially and significantly more likely to express interest in WWP participation (Table 2). Of the eight chronic conditions in the survey, three (back/spine disease, depression, obesity) were significantly associated with WWP interest. The direction of association was the same for all eight conditions, whether statistically significant or not. The number of chronic conditions ranged from zero to seven (mean: 1.4; SD: 1.3); 31.3% reported none, 31.1% reported one, and 37.7% reported two or more. Workers with more chronic conditions were more likely to express interest in WWP participation ($p < .001$); however, number of work days missed due to health issues was not significantly associated with WWP interest (Table 2).

Employment type, union membership, employer size, and job strain were not significantly associated with WWP interest (Table 3). In contrast, workers reporting more economic stress consistently expressed more WWP interest, as did workers reporting lower earnings or less job security compared to pre-injury. Inadequate employer/healthcare provider communication and lack of health insurance were also significantly associated with more WWP interest. Workers who needed job accommodations, regardless of whether they were provided, were significantly more likely to express interest in WWP participation compared to workers who did not need accommodations (Table 3). Workers reporting more work-family conflict consistently expressed more WWP interest. We also assessed several other workplace factors not included in Table 3 (i.e., social support, supervisor support, coworker support, organization-level and group-level safety climate), and found no noteworthy or statistically significant associations with interest in WWP participation.

Of the 272 workers who expressed no interest in WWP participation, 19.5% ($n = 53$) did not think they needed a WWP; 16.9% ($n = 46$) reported that they were already engaged in their own health or wellness activities; 4.0% ($n = 11$) did not think it would be helpful; and 8.8% ($n = 24$) did not think it relevant to their employment circumstances because they were retired, about to retire or leave their job, or were self-employed. Eight workers (2.9%) said they would need more information about WWPs. Specific participation barriers were described by 34.2% ($n = 93$). More than half of this subset described being too busy

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or having no time to participate, in general terms ($n = 52$), related to work demands ($n = 8$), or related to family demands ($n = 8$). Other convenience-related barriers included wanting to avoid extending the workday ($n = 7$), length or timing of commute ($n = 3$), night shift ($n = 2$), and general inconvenience ($n = 1$). Barriers with a more individual/personal focus included: preferring solitary activities/privacy ($n = 5$), health/injury status ($n = 4$), and age ($n = 1$). Notably, few workers cited negative perceptions of their employer ($n = 5$) or negative perceptions of WWPs ($n = 4$). Finally, 16.9% ($n = 46$) did not provide any further information or gave vague/uncodable responses. (Note: Percentages summed to slightly over 100% because several responses were assigned more than one code.)

In a post-hoc analysis motivated by the bivariate and qualitative findings above, we took a closer look at the subgroup whose stated reason for not being interested in WWP participation was that they were already engaged in their own health or wellness activities. The associations found between WWP interest and both lower income and lack of health insurance (Tables 1 and 3) suggested that one mechanism driving WWP interest might be lack of access to health/wellness activities outside the workplace. To assess this potential mechanism, we divided the sample into three groups: (1) no WWP interest, because already engaged in health/wellness activities; (2) no WWP interest, but gave other reasons (or no reason); and (3) WWP interest. Workers with no WWP interest due to engagement in health/wellness activities had: (1) higher incomes (36.4% of this group were in the 80,000+ USD category, compared to 24.2% of those with no WWP interest for other reasons and 19.6% of those with WWP interest; $p = .013$); and (2) a higher prevalence of employer-based health insurance (76.1% compared to 65.8% and 59.0%, respectively; $p = .048$). Health insurance coverage from any source had the same pattern, although not statistically significant (95.7% compared to 92.9% and 88.5%, respectively, $p = .116$).

Discussion

A majority of respondents (51.4%) expressed interest in WWP participation. Expressing interest in WWP participation was significantly associated with having or being exposed to the more adverse condition for a number of health, work, and economic characteristics, including health status, work function, pain, pain interference with work, perceived reinjury risk, job security, work-family conflict, earnings, and economic stress. Workers expressing interest were less likely to have health insurance, yet were more likely to have certain chronic health conditions (i.e., back/spine disease, depression, obesity). Workers who needed job accommodations (vs. those who did not) were significantly more likely to express interest in WWP participation. These findings contrasted with previous research suggesting that healthier and more physically active employees were more likely to participate in WWPs (Muir et al., 2019). Reported interest may not necessarily result in actual participation (Ott-Holland et al., 2019), and our findings point to the need to assess and address participation barriers for this population in order to ensure equity and inclusion. For example, interest in WWP participation was associated with higher levels of work-family conflict, which in turn might affect ability to participate outside working hours.

Specific participation barriers were described by 34.2% of the workers who expressed no interest. These barriers most often related to issues that could potentially be addressed

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by offering WWP_s during working hours and making workload adjustments. This echoes previous qualitative research among low-wage workers (Parrish et al., 2018). Notably, few workers cited negative perceptions of their employer or of WWP_s as their rationale for lack of interest. Further, many workers expressing no interest gave reasons that might be amenable to educational and motivational strategies. For example, among those not interested (n = 272), 19.5% didn't think they needed a WWP, 4.0% didn't think a WWP would be helpful, and 2.9% needed more information.

Workers who reported lack of interest in WWP participation due to being engaged in their own fitness/wellness programs (vs. other reasons) had higher incomes and a higher prevalence of employer-based health insurance. These characteristics may facilitate access to wellness activities such as gym memberships, fitness classes, physical therapy, and personal trainers; thus, potentially less need for employer-provided WWP_s.

Strengths and Limitations

The open-ended approach enabled the description of WWP interest/participation barriers to emerge from the standpoint of the workers surveyed, rather than relying on a priori frameworks. Another strength was that the survey was focused on the first year after claim closure—a time period which is high-risk for reinjury and job loss, and crucial for successful work reintegration (Sears, Fulton-Kehoe, et al., 2021; Sears, Schulman, et al., 2021a). Finally, this study involved a large population-based sample of workers with work-related permanent impairments, and the nonresponse assessment revealed no consequential bias. Our inclusion of workers with any type of permanent impairment enhances generalizability to a broad range of injuries and conditions. Limitations to generalizability include: (1) the survey being conducted only in English; and (2) a high prevalence of union membership (42.2%), more than double the estimated 19.8% for Washington State in 2018 (Bureau of Labor Statistics), which may indicate relatively low job precarity among this sample (Edmonds et al., 2021). This was an exploratory study; more research is needed to replicate and extend these findings.

Conclusions

This study provides evidence that a majority of workers with work-related permanent impairments—particularly those at higher risk of adverse health outcomes and with fewer economic resources—are interested in participating in WWP_s. Our findings point to the need to determine whether existing WWP_s adequately serve this population, and whether adjustments are needed to support access and inclusion.

Implications for Occupational Health Practice

Implementation of a Total Worker Health™ strategy at the workplace often includes a WWP as a key feature. Some studies have suggested that WWP_s are primarily used by healthier workers. In this study, we identified that many workers with work-related impairments reported interest in WWP_s, which was promising and worth further exploration. Workers with work-related permanent impairments, and disabled workers more generally, represent

a substantial share of the workforce. Additionally, some workers with work-related impairments reported barriers to participating in WWPs as the reason for their lack of interest. Efforts to address these barriers could ensure equitable access to WWPs by workers who may have the most to gain from these programs. Occupational health nurses and others undertaking WWP planning, implementation, and outreach should ensure that WWPs are inclusive and serve workers with disabilities.

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Data Availability Statement:

The data that support the findings of this study are not available for data-sharing due to privacy and third party restrictions.

References

- Bureau of Labor Statistics. Union Membership (Annual) News Release, 2018. Retrieved January 21, 2021 from https://www.bls.gov/news.release/archives/union2_01182019.htm
- Chari R, Chang CC, Sauter SL, Petrun Sayers EL, Cerully JL, Schulte P, ... Uscher-Pines L (2018). Expanding the paradigm of occupational safety and health: a new framework for worker well-being. *J Occup Environ Med*, 60(7), 589–593. 10.1097/JOM.0000000000001330 [PubMed: 29608542]

Cook LH, Foley JT, & Semeah LM (2016). An exploratory study of inclusive worksite wellness: considering employees with disabilities. *Disabil Health J*, 9(1), 100–107. 10.1016/j.dhjo.2015.08.011 [PubMed: 26471518]

Dedoose Version 8.3.35. (2020). Desktop application for managing, analyzing, and presenting qualitative and mixed method research data (www.dedoose.com). SocioCultural Research Consultants, LLC. www.dedoose.com

Edmonds AT, Sears JM, O'Connor A, & Peckham T (2021). The role of nonstandard and precarious jobs in the well-being of disabled workers during workforce reintegration. *American Journal of Industrial Medicine*, 64(8), 667–679. 10.1002/ajim.23254 [PubMed: 34003515]

Hsieh HF, & Shannon SE (2005). Three approaches to qualitative content analysis. *Qual Health Res*, 15(9), 1277–1288. 10.1177/1049732305276687 [PubMed: 16204405]

Ingram DD, & Franco SJ (2014). 2013 NCHS Urban–Rural Classification Scheme for Counties. In *Vital Health Statistics* (Vol. 2). Washington, DC: National Center for Health Statistics.

Muir SD, Silva SSM, Woldegiorgis MA, Rider H, Meyer D, & Jayawardana MW (2019). Predictors of success of workplace physical activity interventions: a systematic review. *J Phys Act Health*, 16(8), 647–656. 10.1123/jpah.2018-0077 [PubMed: 31203701]

Ott-Holland CJ, Shepherd WJ, & Ryan AM (2019). Examining wellness programs over time: predicting participation and workplace outcomes. *J Occup Health Psychol*, 24(1), 163–179. 10.1037/ocp0000096 [PubMed: 28872333]

Parrish AT, Hammerback K, Hannon PA, Mason C, Wilkie MN, & Harris JR (2018). Supporting the health of low socioeconomic status employees: qualitative perspectives from employees and large companies. *J Occup Environ Med*, 60(7), 577–583. 10.1097/JOM.0000000000001318 [PubMed: 29538272]

Schill AL, & Chosewood LC (2013). The NIOSH Total Worker Health program: an overview. *J Occup Environ Med*, 55(12 Suppl), S8–11. 10.1097/JOM.000000000000037 [PubMed: 24284752]

Sears JM, Edmonds AT, MacEachen E, & Fulton-Kehoe D (2021). Workplace improvements to support safe and sustained return to work: Suggestions from a survey of workers with permanent impairments. *Am J Ind Med*, 64(9), 731–743. 10.1002/ajim.23274 [PubMed: 34254343]

Sears JM, Fulton-Kehoe D, & Hogg-Johnson S (2021). Initial return to work and long-term employment patterns: associations with work-related permanent impairment and with participation in workers' compensation-based return-to-work programs. *Am J Ind Med*, 64(5), 323–337. 10.1002/ajim.23233 [PubMed: 33616241]

Sears JM, Schulman BA, Fulton-Kehoe D, & Hogg-Johnson S (2021a). Estimating time to reinjury among Washington State injured workers by degree of permanent impairment: using state wage data to adjust for time at risk. *Am J Ind Med*, 64(1), 13–25. 10.1002/ajim.23200 [PubMed: 33210293]

Sears JM, Schulman BA, Fulton-Kehoe D, & Hogg-Johnson S (2021b). Workforce reintegration after work-related permanent impairment: a look at the first year after workers' compensation claim closure. *J Occup Rehabil*, 31(1), 219–231. 10.1007/s10926-020-09912-z [PubMed: 32651725]

Sears JM, Schulman BA, Fulton-Kehoe D, & Hogg-Johnson S (2021). Workplace organizational and psychosocial factors associated with return-to-work interruption and reinjury among workers with permanent impairment. *Annals of Work Exposures and Health*, 65(5), 566–580. 10.1093/annweh/wxa133 [PubMed: 33843964]

Tsai R, Alterman T, Grosch JW, & Luckhaupt SE (2019). Availability of and participation in workplace health promotion programs by sociodemographic, occupation, and work organization characteristics in US workers. *Am J Health Promot*, 33(7), 1028–1038. 10.1177/0890117119844478 [PubMed: 31014070]

Applying Research to Occupational Health Practice

Workers with work-related permanent impairments, and disabled workers more generally, represent a substantial share of the workforce. This study suggests that a majority of workers with work-related permanent impairments—particularly those at higher risk of adverse health outcomes and with fewer economic resources—are interested in participating in WWPs. Additionally, some workers with work-related impairments reported barriers to participating in WWP as the reason for their lack of interest. Efforts to address these barriers could ensure equitable access to WWP by workers who may have the most to gain from these programs. Occupational health nurses and others undertaking WWP planning, implementation, and outreach should ensure that WWP are inclusive and serve workers with disabilities.

Table 1.

Associations between Sociodemographic Characteristics and Workplace Wellness Program Interest (N = 560)

Characteristic	Overall (N = 560)	Interested in workplace wellness program		
		No (n = 272)	Yes (n = 288)	p
	n (column %)	n (row %)	n (row %)	
Gender				
Women	179 (32.0)	77 (43.0)	102 (57.0)	.071
Men	381 (68.0)	195 (51.2)	186 (48.8)	
Age when interviewed (years)				.165
18–24	13 (2.3)	6 (46.2)	7 (53.8)	
25–34	62 (11.1)	29 (46.8)	33 (53.2)	
35–44	110 (19.6)	48 (43.6)	62 (56.4)	
45–54	151 (27.0)	68 (45.0)	83 (55.0)	
55–64	192 (34.3)	99 (51.6)	93 (48.4)	
65	32 (5.7)	22 (68.8)	10 (31.3)	
Educational level				.179
Not high school graduate/no GED	19 (3.4)	7 (36.8)	12 (63.2)	
High school graduate/GED	140 (25.1)	75 (53.6)	65 (46.4)	
Some college	285 (51.2)	128 (44.9)	157 (55.1)	
College graduate	113 (20.3)	60 (53.1)	53 (46.9)	
Pre-tax earnings during past year				.004
< 20,000 USD	70 (13.0)	24 (34.3)	46 (65.7)	
20,000 to < 40,000 USD	121 (22.5)	48 (39.7)	73 (60.3)	
40,000 to < 60,000 USD	138 (25.7)	76 (55.1)	62 (44.9)	
60,000 to < 80,000 USD	86 (16.0)	46 (53.5)	40 (46.5)	
80,000+ USD	123 (22.9)	69 (56.1)	54 (43.9)	
Race/ethnicity				.995
White/Caucasian	453 (82.4)	224 (49.5)	229 (50.6)	
Black/African American	18 (3.3)	7 (38.9)	11 (61.1)	
Asian	15 (2.7)	7 (46.7)	8 (53.3)	
American Indian/Alaska Native	7 (1.3)	2 (28.6)	5 (71.4)	
Native Hawaiian/Pacific Islander	9 (1.6)	4 (44.4)	5 (55.6)	
Latino (any race)	30 (5.5)	14 (46.7)	16 (53.3)	
Multiple	18 (3.3)	9 (50.0)	9 (50.0)	
Urban-rural residence county				.727
Large central metropolitan	111 (20.1)	53 (47.7)	58 (52.3)	
Large fringe metropolitan	195 (35.3)	91 (46.7)	104 (53.3)	
Medium metropolitan	121 (21.9)	57 (47.1)	64 (52.9)	
Small metropolitan	54 (9.8)	31 (57.4)	23 (42.6)	
Micropolitan	54 (9.8)	26 (48.1)	28 (51.9)	

Characteristic	Overall (<i>N</i> = 560)	Interested in workplace wellness program		
		No (<i>n</i> = 272)	Yes (<i>n</i> = 288)	<i>p</i>
	<i>n</i> (column %)	<i>n</i> (row %)	<i>n</i> (row %)	
Noncore	17 (3.1)	10 (58.8)	7 (41.2)	

Note. GED = General Educational Diploma; USD = United States Dollar.

Table 2.

Associations between Health Characteristics and Workplace Wellness Program Interest

Characteristic	Overall (N = 560)	Interested in workplace wellness program		
		No (n = 272)	Yes (n = 288)	p
	n (column %)	n (row %)	n (row %)	
Current health status: Fair/poor	150 (26.8)	55 (36.7)	95 (63.3)	.001
Good/very good/excellent	410 (73.2)	217 (52.9)	193 (47.1)	
Current work function ability: Fair/poor	169 (30.4)	62 (36.7)	107 (63.3)	<.001
Good/very good/excellent	387 (69.6)	208 (53.7)	179 (46.3)	
Bodily pain in past 4 weeks: Moderate/severe/very severe	362 (64.6)	156 (43.1)	206 (56.9)	<.001
Very mild or no pain	198 (35.4)	116 (58.6)	82 (41.4)	
Pain interfered with work in past 4 weeks: Somewhat/quite a bit/very much	221 (39.5)	89 (40.3)	132 (59.7)	.001
Not at all/very little	338 (60.5)	183 (54.1)	155 (45.9)	
Higher reinjury risk now vs. pre-injury	357 (65.3)	152 (42.6)	205 (57.4)	<.001
No	190 (34.7)	115 (60.5)	75 (39.5)	
Higher reinjury risk vs. coworkers	297 (54.7)	124 (41.8)	173 (58.2)	<.001
No	246 (45.3)	141 (57.3)	105 (42.7)	
Permanent impairment made it difficult to get a job (little bit to extremely)	246 (47.2)	100 (40.7)	146 (59.3)	.005
Not at all difficult	275 (52.8)	146 (53.1)	129 (46.9)	
Permanent impairment made it difficult to keep a job (a little bit to extremely)	317 (57.0)	141 (44.5)	176 (55.5)	.034
Not at all difficult	239 (43.0)	128 (53.6)	111 (46.4)	
Diabetes past year	62 (11.1)	25 (40.3)	37 (59.7)	.173
No	495 (88.9)	245 (49.5)	250 (50.5)	
Arthritis past year	143 (25.7)	62 (43.4)	81 (56.6)	.142
No	414 (74.3)	209 (50.5)	205 (49.5)	
Asthma past year	62 (11.1)	27 (43.5)	35 (56.5)	.410
No	497 (88.9)	244 (49.1)	253 (50.9)	
Back/spine disease past year	137 (24.7)	49 (35.8)	88 (64.2)	.001
No	418 (75.3)	221 (52.9)	197 (47.1)	
Upper GI past year	69 (12.4)	30 (43.5)	39 (56.5)	.366
No	489 (87.6)	241 (49.3)	248 (50.7)	
Depression past year	113 (20.3)	35 (31.0)	78 (69.0)	<.001
No	445 (79.7)	235 (52.8)	210 (47.2)	
Anxiety/panic past year	91 (16.3)	41 (45.1)	50 (54.9)	.475
No	468 (83.7)	230 (49.1)	238 (50.9)	
Obesity past year	81 (14.6)	24 (29.6)	57 (70.4)	<.001
No	473 (85.4)	246 (52.0)	227 (48.0)	
Characteristic (scales)	Mean (SD)	Mean (SD)	Mean (SD)	p
Number of chronic conditions	1.4 (1.3)	1.1 (1.1)	1.6 (1.5)	<.001

Characteristic	Overall (N = 560)	Interested in workplace wellness program		
		No (n = 272)	Yes (n = 288)	p
	n (column %)	n (row %)	n (row %)	
Work days missed past year due to health issues other than work injuries	5.5 (18.1)	4.8 (17.7)	6.2 (18.4)	.378

Table 3.

Associations between Work and Economic Characteristics and Workplace Wellness Program Interest

Characteristic	Overall (N = 560)	Interested in workplace wellness program		
		No (n = 272)	Yes (n = 288)	p
n (column %)	n (row %)	n (row %)		
Full-time traditional employment	464 (82.9)	225 (48.5)	239 (51.5)	.934
Part-time/temporary/seasonal/self-employed	96 (17.1)	47 (49.0)	49 (51.0)	
Current union member	237 (42.5)	121 (51.1)	116 (48.9)	.348
Not currently a union member	321 (57.5)	151 (47.0)	170 (53.0)	
50 employees work at specific workplace	231 (41.5)	109 (47.2)	122 (52.8)	.536
<50 employees	325 (58.5)	162 (49.8)	163 (50.2)	
50 employees work for company overall	419 (77.2)	200 (47.7)	219 (52.3)	.448
<50 employees	124 (22.8)	64 (51.6)	60 (48.4)	
Job accommodations				<.001
Not needed	239 (43.4)	140 (58.6)	99 (41.4)	
Needed and provided	241 (43.7)	99 (41.1)	142 (58.9)	
Needed but not provided	71 (12.9)	30 (42.3)	41 (57.7)	
Inadequate employer/healthcare provider communication	131 (27.3)	46 (35.1)	85 (64.9)	<.001
Adequate	348 (72.7)	188 (54.0)	160 (46.0)	
High job strain	81 (15.1)	36 (44.4)	45 (55.6)	.438
Low job strain	456 (84.9)	224 (49.1)	232 (50.9)	
Current earnings less than pre-injury	162 (29.0)	56 (34.6)	106 (65.4)	<.001
Same or more than pre-injury	396 (71.0)	215 (54.3)	181 (45.7)	
Current job security less than pre-injury	113 (20.6)	36 (31.9)	77 (68.1)	<.001
Same or more than pre-injury	435 (79.4)	228 (52.4)	207 (47.6)	
Often worry about total income not being enough to meet expenses	155 (27.9)	57 (36.8)	98 (63.2)	.001
Sometimes to never worry	401 (72.1)	213 (53.1)	188 (46.9)	
Contacted by collection agency in past 3 months	97 (17.4)	30 (30.9)	67 (69.1)	<.001
No	460 (82.6)	240 (52.2)	220 (47.8)	
Housing at risk due to underpaid rent/mortgage in past 3 months	55 (9.8)	16 (29.1)	39 (70.9)	.002
No	505 (90.2)	256 (50.7)	249 (49.3)	
No employer-based health insurance coverage	206 (36.9)	88 (42.7)	118 (57.3)	.037
Has employer-based health insurance	353 (63.1)	183 (51.8)	170 (48.2)	
No health insurance coverage from any source	51 (9.1)	18 (35.3)	33 (64.7)	.047
Has health insurance	509 (90.9)	254 (49.9)	255 (50.1)	
Characteristic (scales)	Mean (SD)	Mean (SD)	Mean (SD)	p
Job satisfaction	3.3 (0.9)	3.4 (0.8)	3.2 (0.9)	<.001
Difficult to take time off work for personal/family matters	2.0 (1.3)	1.8 (1.2)	2.2 (1.3)	<.001
Job demands interfere with family	2.4 (1.1)	2.3 (1.0)	2.6 (1.1)	.002

Characteristic	Overall (N = 560)	Interested in workplace wellness program		
		No (n = 272)	Yes (n = 288)	p
	n (column %)	n (row %)	n (row %)	
Family demands interfere with job	1.9 (0.9)	1.8 (0.8)	2.0 (0.9)	.049