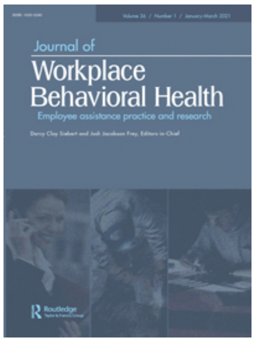

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How do work organization conditions affect job performance? The mediating role of workers' well-being

Annick Parent-Lamarche[a], Alain Marchand[b], and Sabine Saade[c]

[a]Department of Human Resources Management, Université du Québec à Trois-Rivières, Trois-Rivières, Canada; [b]School of Industrial Relations, University of Montreal, Montreal, Canada; [c]Department of Psychology, American University of Beirut, Beirut, Lebanon

ABSTRACT

Background: To design a workplace environment that favors workers' well-being, organizations need to determine which variables are associated with this mental state. In doing so, the hope is to replenish human, work and social resources and ultimately boost employee's performance at work.

Objective and method: This study's objective was to evaluate the association between work organization conditions and job performance/professional efficacy as mediated by employees' well-being. We conducted path analyses adjusted for design effects resulting from cluster sampling. We used MPlus software. The analysis performed allowed us to evaluate both the direct and indirect associations (mediation effects) while accounting for the non-independence of our data due to cluster sampling (workers nested in their workplace).

Results and conclusion: Three indirect associations/mediation effects were found to be significant. Psychological demands, number of hours worked, and job insecurity were indirectly associated with lower levels of professional efficacy/job performance because of their negative associations with well-being. The results obtained highlight the need to target specific work organization conditions. Making sure a sufficient number of staff are on hand to reduce psychological demands, offering the option to reduce number of hours worked, and fostering job security with an improved organizational communication are all possible avenues.

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Job performance; well-being; mediation analysis; job insecurity; psychological demands

Introduction

The notion that happy workers are, on average, more productive than less happy or unhappy workers was popularized with the 1930s Human Relations Movement (Salgado, Blanco, & Moscoso, 2019). Happy workers are individuals scoring high on well-being measures or so-called

CONTACT Annick Parent-Lamarche annick.parent-lamarche@uqtr.ca Department of Human Resources Management, Université du Québec à Trois-Rivières, 3225, Albert-Tessier, Trois-Rivières, Québec G9A 5A7, Canada.

"happiness" well-being (Peccei & Van De Voorde, 2019; Salgado et al., 2019). The past decade has witnessed a growing interest in studying work-related well-being (Astvik & Melin, 2013; Tesi, Aiello, & Giannetti, 2019). Workers' well-being is worth examining due to its association with several outcomes. Among those outcomes are workers' levels of motivation, the effort they are likely to invest at work, their behavior at work, their relationships, their engagement to their job, and ultimately their performance at work (Erdogan, Bauer, Truxillo, & Mansfield, 2012; Mount, Ilies, & Johnson, 2006). Unsurprisingly, low levels of workers' well-being were negatively associated with work performance (Sonnentag, 2015). Because of the importance of workers' well-being, this variable has retained many researchers' attention to examining diverse organizations and work sectors (Steel, Taras, Uggerslev, & Bosco, 2018). To design a workplace environment that favors workers' well-being, organizations need to determine which variables are associated with this mental state. The goal of such a workplace is to provide human, work, and social resources, and ultimately boost employee productivity. Favoring employees' well-being could help organizations and employees reap benefits. Providing opportunities for employees to be successful (Giorgi, Shoss, & Di Fabio, 2017) might result in a win-win situation for both employees and organizations that employ them (Guest, 2017; Marescaux, De Winne, & Forrier, 2019). Guided by the importance of employee well-being and the suspected role work organization conditions play in it, we evaluated the association between work organization conditions and job performance professional efficacy as mediated by employee well-being. To pursue the stated objective, we conducted a cross-sectional study in a sample of 1,957 Canadian employees working in 63 companies.

Empirical background

Well-being

Well-being is an umbrella term encompassing two main dimensions (hedonic and eudemonic). One of the best-known definitions of this concept was put forth by Ryan and Deci (2001) and pertains to optimal experience and functioning. On the one hand, the hedonic dimension pertains to happiness and views well-being as the result of seeking pleasure and avoiding pain (Ryan & Deci, 2001). On the other hand, the eudemonic dimension pertains to deriving meaning and realizing oneself (Ryan & Deci, 2001). Based on this definition, well-being is believed to reflect the degree of functional independence. Despite these distinct concepts, the two dichotomous dimensions of hedonia-eudaimonia do not necessarily recognize the higher-order structure of well-being (Disabato, Goodman, Kashdan, Short,

& Jarden, 2016). Well-being is a part of optimal mental health and usually includes both positive and negative elements (Schütte et al., 2014). Relatedly, most studies have focused on the negative indicators of well-being (e.g., psychological distress, depression, and burnout) as well as the positive indicators (e.g., job satisfaction and engagement in one's work) (Mäkikangas, Kinnunen, Feldt, & Schaufeli, 2016). Previous studies have also distinguished between an overall state of well-being (e.g., life satisfaction; Meyers & van Woerkom, 2017) and one that is related to work (e.g., job satisfaction; Richter & Näswall, 2019). That is, job satisfaction represents a work-related state of mind, whereas life satisfaction usually refers to an overall state of well-being. This lack of consensus about the dimension and definitions of well-being (Lindert, Bain, Kubzansky, & Stein, 2015) is worrisome as it might lead to an unclear definition of the concept (Jayawickreme, Forgeard, & Seligman, 2012; Sun, Kaufman, & Smillie, 2018). Furthermore, a low level of psychological distress has previously been equated with a high level of well-being. The absence of psychological distress does not necessarily mean that the person is in a state of well-being. Also of concern is the scarcity of studies about well-being at work. Although the state of work-related well-being (e.g., job satisfaction) has previously been examined in the scientific literature (Judge, Thoresen, Bono, & Patton, 2001; Wood, Van Veldhoven, Croon, & de Menezes, 2012), the broader construct of global employee well-being has lagged behind (Węziak-Białowolska, Białowolski, & McNeely, 2019). Moreover, job satisfaction is an attitude or a learned predisposition to respond in a consistently favorable or unfavorable manner toward a given object (Judge et al., 2001). This concept stands in contrast with a mental health state or a mood. Based on this perceived gap, we relied on the World Health Organization's Well-being Index (WHO-Five), a comprehensive and subjective measure of well-being (Topp, Østergaard, Søndergaard, & Bech, 2015). Accordingly, the present study is unique in that the well-being measure used is not strictly work-related, nor is it related to life satisfaction. Although life satisfaction could be considered a happiness proxy (Lyubomirsky, King, & Diener, 2005), we still decided to rely on a positive mental health indicator. Well-being, as a measure of general happiness, may better predict work performance than well-being as a measure of job satisfaction (Cropanzano & Wright, 1999; Wright & Staw, 1999). The WHO-Five, a measure of psychological well-being, comprises several elements related to well-being, instead of the absence of depressive symptoms (Bech, Olsen, Kjoller, & Rasmussen, 2003). Therefore, the positive elements of well-being are more likely to be conducive to a good performance at work compared to the absence of negative symptoms (e.g., depressive symptoms). To that effect, it is worth mentioning that the WHO-Five was previously used to assess workers' mental health and well-being at work (Gao et al., 2014; Nielsen & Randall, 2012). In line with previous studies, we adopted the WHO's well-being definition while considering the following concepts: Good mood, vitality, and interests a person might have. In doing so, we considered well-being as a general state of happiness (Ariza-Montes, Giorgi, Hernández-Perlines, & Fiz-Perez, 2019). This multidimensional measure relies on various dimensions of subjective well-being dimensions, making it suitable for a range of subject matters (Topp et al., 2015).

Well-being and professional efficacy/job performance

Professional efficacy refers to feelings of efficiency and productivity at work. This concept includes social and nonsocial accomplishments in a work context (Maslach, Schaufeli, & Leiter, 2001) that have been positively associated with work engagement (Schaufeli & Bakker, 2004). Because professional efficacy could be viewed as performance at work, we considered this construct an indicator of one's evaluation. According to Van De Voorde, Paauwe, and Van Veldhoven (2012), employee well-being (in terms of happiness) is congruent with organizational performance. This variable seems to be positively related to work engagement (Tesi et al., 2019) while predicting job performance in an industry-specific sample (Salgado et al., 2019).

Previous studies have recognized the importance of worker mental health by demonstrating how mental health issues could affect job performance (Khamisa, Oldenburg, Peltzer, & Ilic, 2015; Lindegård, Larsman, Hadzibajramovic, & Ahlborg, 2014; Shimazu & Schaufeli, 2009). Indeed, a study conducted by Hobfoll (2002) demonstrated that employees grappling with mental health issues are not working as well as they could. Inversely, a systematic review demonstrated that individuals scoring high on well-being measures were more proactive, more creative, and more engaged in activities than their counterparts with lower levels of well-being (Lyubomirsky et al., 2005). Positive emotions usually translate into a tendency to face rather than to avoid goals. In the long run, positive emotions likely play an important role in individuals' flourishing (Lyubomirsky et al., 2005). Although the association between specific work-related variables (e.g., decision latitude, psychological demands, social support) and efficacy at work has been previously demonstrated (Ahola et al., 2006; Hamaideh, 2011; Lourel, Abdellaoui, Chevaleyre, Paltrier, & Gana, 2008; Singh, Suar, & Leiter, 2012; Xie, Wang, & Chen, 2011), the association between worker well-being and professional efficacy/job performance remains relatively unknown. How worker mental health/well-being translates into job performance is worth examining. A better understanding of this association might help shed light on employees' difficulties while trying to meet their job demands.

This study aims to investigate how work-related variables are associated with a multidimensional measure of well-being in workers based on the perceived gap in the literature. To the best of our knowledge, considering specific variables in one comprehensive model has not been previously undertaken. This study contributes to the body of literature by relying on a positive mental health indicator while accounting for various work and personality-related variables in a workers' population. This comprehensive model allowed us to capture the effect of work organization conditions on worker well-being, as a state of general happiness, over and above that of control variables. Compared to the absence of mental health issues, we believe that this general state of happiness is likely to affect worker job performance positively. Therefore, the results of this study could help redesign work conditions by placing more emphasis on several work organization conditions. Because Human Resource Management (HRM) or job design are believed to influence workers' performance indirectly through their well-being (Boxall & Macky, 2009; Guest, 2017; Marescaux et al., 2019; Warr & Nielsen, 2018), we hypothesized that work organization conditions could play a similar role.

Work organization conditions

Work organization conditions refer to work-related variables. In addition to "enriched job design," these variables usually pertain to job discretion, skill utilization, career prospects as well as reduced job uncertainty (Wood et al., 2012). Work organization conditions pertain to resources or restrictions that result in stress on an employee's mind and body. Because of their physical and mental health effect, such work conditions could be associated with adverse outcomes such as psychological distress. Therefore, redesigning work organization conditions could represent a starting point for improving employee mental health (Dollard & Winefield, 1998). In the same token, work organization variables play an essential role in employee well-being (Kopp, Stauder, Purebl, Janszky, & Skrabski, 2008; Leka, Jain, Cox, & Kortum, 2011). Considering work organization variables is essential from an occupational health perspective (Schütte et al., 2014). Work organization conditions usually cluster into four distinct categories: Task design, work demands, social relations, and gratifications (Marchand, Demers, & Durand, 2006), and are drawn from the conventional work stress models: Job demands-control model (Karasek, 1979); Job demands-control-support model (Karasek & Theorell, 1990); Effort-reward imbalance (Siegrist, 1996);

as well as the Demands-resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Task design

Decision Latitude refers to the leeway someone has in influencing their workgroup or in shaping company policies (Mausner-Dorsch & Eaton, 2000). This umbrella term encompasses skill utilization and decision authority. Skill utilization refers to the extent to which a worker can make use of his abilities and credentials and the opportunity to foster new ones. Decision authority refers to an individual having authority over one's tasks, how to execute them, and at what pace. We were interested in those two dimensions of decision latitude due to their association with worker positive mental health and well-being. Previous studies have demonstrated that high skill utilization levels and decision authority are positively associated with individual mental well-being (Ariza-Montes, Arjona-Fuentes, Han, & Law, 2018; Di Marco, Arenas, Giorgi, Arcangeli, & Mucci, 2018; Lecca et al., 2018; Lee, 2019; Parent-Lamarche, Marchand, & Saade, 2020; Wong & Lin, 2007). Decision latitude also appears to play an important role in worker well-being due to its association with higher professional efficacy (Galletta et al., 2016; Xie et al., 2011).

Work demands

Among work organization conditions, work demands, psychological and physical demands have been examined extensively because of their association with worker well-being. *Psychological Demand* variables usually refer to work demands that might exert a psychological strain on the worker such as work rhythm and workload facing divergent demands (Karasek, 1979; Karasek & Theorell, 1990). As for their association with mental health, previous studies have identified a negative link between psychological demands and well-being (Ariza-Montes et al., 2018; Jung & Yoon, 2014; Parent-Lamarche & Marchand, 2019a; Schütte et al., 2014; Wong & Lin, 2007). *Physical Demands* at work pertain to variables that are likely to exert a physical toll on the individual. Those variables include dust, vibrations, extreme temperatures, smoke, toxic fumes, high noise levels, and any type of hazard one might encounter in an industrial factory setting. These variables have also retained the interest of researchers due to their association with worker well-being. More specifically, physical demands are associated with poor well-being measures such as emotional exhaustion (Xanthopoulou et al., 2007), job dissatisfaction (De Jonge, Bosma, Peter, & Siegrist, 2000), and depression (Magnusson Hanson, Chungkham, Åkerstedt, & Westerlund, 2014; Marchand, Durand, Haines, & Harvey, 2015).

Social relations

Social Support at work refers to support garnered from a variety of sources, including colleagues and supervisors. Social support is important to consider while evaluating worker mental health and well-being as it allows the worker to enjoy a certain level of support and recognition, and provide enjoyment and reward in exchange for one's efforts and suffering at work (Dejours, 1993). In addition to evidence linking social support with higher professional efficacy (Xie et al., 2011), a large sample study ($n = 36{,}996$) found evidence for the association of social support with worker mental health and well-being (Lorente, Tordera, & Peiró, 2018). Several studies have also reached the same conclusion with regards to social support from one's supervisor (Ariza-Montes et al., 2018; Wong & Lin, 2007) and co-workers (Ariza-Montes et al., 2018; Lecca et al., 2018; Wolter et al., 2019; Wong & Lin, 2007). In a study conducted by Lee (2019), social support garnered from both colleagues and supervisors was interestingly not a significant predictor of worker well-being. These conflicting results could be attributed to the sample examined. For instance, Ariza-Montes et al.'s (2018) findings were based on a sample of 2,000 workers in a specific field (i.e., hospitality industry). Lee's study, on the other hand, was based on a sample of older workers. According to the author, older workers' reduced need for social support to achieve a state of mental well-being could help explain the results obtained.

Gratifications

Job Gratifications refer to compensation reaped from working and include recognition, appreciation, motivation, and allowing a worker to derive a sense of identity from their job. Because monetary compensation, career prospective, and job security all provide job gratification, a low level of job gratification can result in worker discontent and stress. Such negative outcomes can, therefore, negatively affect worker mental health. De Witte, Pienaar, & De Cuyper (2016) supported this finding and found that a lack of security in one's job negatively affects mental health. Unsurprisingly, job insecurity and reduced chances of moving up on the hierarchical ladder seem to harm workers' well-being ($n = 33{,}443$ workers from 34 European countries; Schütte et al., 2014). In terms of work organization conditions, the relationship between job insecurity and poor well-being has also been established in more than one study (Cheng & Chan, 2008; Parent-Lamarche & Marchand, 2019a; Sverke, Hellgren, & Näswall, 2002).

The same findings extend to job performance (Darvishmotevali, Arasli, & Kilic, 2017). Unsurprisingly, appreciation at work seems to be positively associated with job performance (Ahmad, Ali, Nisar, & Ahmed, 2017; Bradler, Dur, Neckermann, & Non, 2016). Despite the well-established link between job security and worker well-being, the relationship between specific mental health indicators, such as depression and anxiety, with job gratification remain less clear. That said, job recognition and promotion seem to be positively associated with a higher level of professional efficacy (Parent-Lamarche et al., 2020).

Theoretical model

For this study, we relied on stress occupational models (Demerouti et al., 2001; Karasek, 1979; Karasek & Theorell, 1990; Siegrist, 1996). To that effect, it is worth mentioning that the job demands/resources model (Demerouti et al., 2001) draws from other well-established models (Karasek, 1979; Karasek & Theorell, 1990; Siegrist, 1996). The espoused model needs to include work organization conditions when evaluating worker mental health and subsequent job efficacy and performance. Work organization conditions are important to consider for several reasons. For example, resources play an important role in terms of motivational potential by increasing worker engagement, performance, and reducing cynicism (motivational hypothesis; Demerouti et al., 2001). Indeed, jobs that are taxing on a worker's mental and physical resources could deplete their energy and subsequently lead to health concerns (i.e., low well-being; hypothesis of impaired health; Demerouti et al., 2001). Because work organization conditions were demonstrated to have a negative effect on worker mental health and well-being, we were interested in evaluating the mediating role worker well-being plays on their professional efficacy and job performance. As such, we relied on those theoretical models to pursue our study objectives.

Hypotheses

Hypothesis. The association between work organization conditions and professional efficacy/job performance is mediated by well-being.

Participants

This cross-sectional study relied on data from the SALVEO study (Marchand et al., 2015). The SALVEO study was carried out in the Canadian province of Quebec between 2009 and 2012. Data were collected from 63 Canadian companies randomly chosen from a comprehensive list of 500 workplaces covered by an insurance company. The insurer communicated information about the research study to 101 companies, and those interested were later referred to the research team. If a company expressed interest in the study, the research team met with the administration to explain the study objectives and what participating in the study would entail. Following the approval of the administration, mass communication was sent out to all the employees to provide more detailed information about the study. This was followed by the selection of a random sample of employees in each company. To participate in the study, all participants were presented with a consent form along with the adequate explanations. After agreeing to the terms of the study, employees were asked to fill out a questionnaire pertaining to a number of variables. Among the variables were work, family, individual characteristics, and social support networks as they might relate to worker mental health indicators such as burnout, depression, and psychological distress. The questionnaire was either administered live on a touch screen computer or remotely over the internet for employees who worked remotely, or who were difficult to reach. Employees were not financially compensated for their participation in the study. Lastly, five different Canadian ethical committees (University of Montreal, McGill University, Laval University, Bishop's University, and Concordia University) approved this study.

Companies were quite diverse in terms of markets they operated in (e.g., engine manufacturing, software development, plumbing supplies, etc.), products sold, or services offered. In terms of sectors, 19 companies were in the secondary sector, 44 were in the tertiary sector and 22 had employees that were part of a union. The size of the companies was also diverse, with some companies employing 25 employees and others 1,900. Collectively, the average number of employees was 247.1 per company (median = 114 employees). See Appendix 1 for companies' key characteristics. As for the sample size, 2,162 employees participated in the study with a response rate of 73.1%. After eliminating missing data, the sample constituted 1,957 employees (48.95% female) with a mean age of 40.6 years ($SD = 10.8$). See Appendix 1 for employees' key characteristics. There were no statistically significant differences between participants who participated in the study and non-responders in terms of hours worked per week, gender, age, burnout, alcohol consumption, physical activity, consumption of psychoactive medication, and health problems. Nevertheless, participants consumed less tobacco ($p < .01$) and had a lower body mass index (BMI; $p < .01$) compared to non-responders.

Measures

Well-being

Well-being is a continuous variable with a higher score indicating a higher level of well-being. To measure worker well-being, we relied on the WHO Well-Being Index (WHO-5; Heun, Bonsignore, Barkow, & Jessen, 2001). This well-established questionnaire included five items measured on a Likert scale (0 = At no time, 5 = All of the time) assessing respondents' subjective well-being (Topp et al., 2015). This measure allowed us to evaluate worker psychological well-being and depression diagnostic criteria (mood, interest, and energy) (Jung et al., 2012). Although this questionnaire may be used as a depression screener in a clinical setting, it was initially conceptualized as a generic scale with no diagnostic specificity (Topp et al., 2015). This questionnaire has since been used as a generic tool to assess well-being across fields (Topp et al., 2015). Relatedly, the World Health Organization (WHO) considers positive well-being and mental health interchangeable. Items included in the questionnaire only pertain to positively phrased questions (Topp et al., 2015). An example of such an item is: My daily life has been filled with things that interest me ($\alpha = .83$). Please refer to Appendix 2 for a complete list of items included in the questionnaire.

Professional efficacy/job performance

Job performance was based on the job efficacy component of the Maslach Burnout Inventory (MBI). This performance self-evaluation comprises six items evaluated on a 6-point Likert scale (0 = Never, 6 = Every day). An example of such an item is: I have accomplished many worthwhile things in this job ($\alpha = .80$). See Appendix 2 for all items.

Work organization conditions

Work organization conditions include several variables related to work conditions. Those variables were assessed based on the Job Content Questionnaire (Karasek, 1985) and included skill utilization, decision authority, psychological demands, and social support. Responses were measured on a 4-point Likert scale (strongly disagree/strongly agree). *Skill Utilization* was composed of six items (e.g., my job requires that I learn new things, ($\alpha = .80$). *Decision Authority* was comprised of 3 items (e.g., my job allows me to make a lot of decisions on my own, $\alpha = .79$). *Psychological Demands* included nine items (e.g., waiting on work from other people or departments often slows me down on my job, $\alpha = .73$). *Social Support at Work* was comprised of eight items (e.g., my supervisor is concerned about the welfare of those under him, $\alpha = .86$). To measure *Physical Demands, Job Insecurity, Job Promotion, and Recognition*, we used the Effort-Reward Imbalance Questionnaire (Siegrist, 1996). Each variable was measured on a 4-point Likert scale (strongly disagree/strongly agree). *Physical Demands* was assessed using one item (e.g., my work requires physical effort). *Job Insecurity* was based on two items (e.g., I have experienced or I expect to experience an undesirable change in my work situation, $\alpha = .65$). *Job Promotion* was comprised of four items (e.g., my job promotion prospects are poor; reverse coded, $\alpha = .69$). *Recognition* included five items (e.g., considering all my efforts and achievements, I receive the respect and prestige I deserve at work, $\alpha = .82$). *Number of Hours Worked* was obtained by summing hours worked per week in all jobs. Lastly, *Irregular Work Schedule* was evaluated based on one item measured on a 4-point Likert scale (never/all the time) and drawn from the Quebec Health and Social Survey (QHSS-98). See Appendix 2 for all items pertaining to work organization conditions.

Control variables

Previous studies have identified variables associated with mental health, professional efficacy, and job performance. Those variables are personal characteristics such as sex (Garrosa, Rainho, Moreno-Jimenez, & Monteiro, 2010; Inayatullah & Jehangir, 2012), age (Inayatullah & Jehangir, 2012; Xie et al., 2011), educational level (Ng & Feldman, 2009), household income (Xie et al., 2011), marital status (Xie et al., 2011), parental status (Klersy et al., 2007), and personality-related dimensions such as self-esteem (Akgunduz, 2015; Parent-Lamarche & Marchand, 2016, 2019a), locus of control (Parent-Lamarche & Marchand, 2019a, 2019b), openness (Ellershaw, Fullarton, Rodwell, & Mcwilliams, 2016), extraversion (Barford & Whelton, 2010; Ellershaw et al., 2016; Parent-Lamarche & Marchand, 2019a), agreeableness (Rashid, Sah, Ariffin, Ghani, & Yunus, 2016), conscientiousness (Barford & Whelton, 2010; Ellershaw et al., 2016; Parent-Lamarche & Marchand, 2019a), and neuroticism (Barford & Whelton, 2010).

Regarding variables' coding, *Sex* was a binary variable coded as 0 = Men and 1 = Women. *Age* was based on the number of years. *Marital Status* and *Parental Status* were also coded as binary variables, with marital status as 0 = Single, 1 = Being part of a couple, and *Parental Status* as 0 = No, 1 = Yes. *Physical Activity* was based on the frequency of 20 min workouts spanning three months preceding the study. *Marital Stress* was evaluated based on a 4-item scale (Yes/no), (e.g., your partner is not committed enough to your relationship, $\alpha = .70$) (Wheaton, 1994). *Parental Stress* was comprised of 3 items also answered as either (Yes/no), (e.g., a child's behavior is a source of serious concern to you, $\alpha = .60$) (Wheaton, 1994). *Educational Level* was based on the highest academic degree obtained. It was comprised of ten categories that referred to the number of years necessary to obtain each degree from the lowest number to the highest (1 = None, 2 = High school, 3 = Professional school, 4 = College (General), 5 = College (Technical), 6 = University (Undergraduate certificate), 7 = University (Bachelor's degree), 8 = University (Graduate diploma), 9 = University (Master's degree), 10 = (University doctorate). *Household Income* was computed before tax deduction and was based on the income earned the year preceding the study (1 = Less than $20,000, 12 = $120,000 or more). *Social Support* garnered outside of the workplace was evaluated based on a 4-item scale also rated as either (Yes/no), (e.g., among family and friends, is there someone you feel close to who shows affection for you?). Lastly, *Stressful Childhood Events* that occurred before reaching the age of 18 were computed based on a 7-item, 2-point scale (Yes/no), (e.g., were you ever physically abused by someone close to you?) (Wheaton, 1994). As for *Personality Traits*, we relied on the Mini International Personality Item Pool (Mini-IPIP; Donnellan, Oswald, Baird, & Lucas, 2006). This questionnaire is comprised of twenty items assessed on a 5-point Likert scale and ranging from strongly disagree to strongly agree. Based on this questionnaire, we were able to assess five general personality traits. *Openness, Extraversion, Agreeableness, Conscientiousness* and *Neuroticism* were all evaluated based on four items (e.g., I see myself as someone who has a vivid imagination, $\alpha = .68$) for *Openness*; (e.g., I see myself as someone who remains in the background, reverse coded, $\alpha = .78$) for *Extraversion*; (e.g., I see myself as someone who sympathizes with others' feelings, $\alpha = .70$) for *Agreeableness*; (e.g., I see myself as someone who likes order, $\alpha = .63$) for *Conscientiousness*; (e.g., I see myself as someone who gets upset easily, $\alpha = .70$) for *Neuroticism*. As for *Self-Esteem*, we relied on the Rosenberg Self-Esteem Scale. This scale is comprised of six items measured on a 5-point scale and ranging from strongly agree to strongly disagree (e.g., you take a positive attitude toward yourself, $\alpha = .87$). Lastly, *Locus of Control* was measured on a seven-item 5-point additive scale (e.g., you can do just about anything you really set your mind to, reverse coded, $\alpha = .84$) (Pearlin & Schooler, 1978). See Appendix 2 for all items evaluated as control variables.

Data analysis

We conducted path analyses adjusted for design effects resulting from cluster sampling. The software used was MPlus (Muthén & Muthen, 2017).

This analysis allowed us to evaluate direct and indirect associations (mediation) while accounting for the non-independence of our data due to cluster sampling (workers nested in their workplace). The mediation effect modeling was based on Preacher and Hayes' (2004) recommendation. More specifically, their recommendation allowed us to determine whether the association between work organization conditions and professional efficacy/job performance was mediated by worker well-being (See hypothesis). Our data analysis procedure went as follows: We started by including work organization conditions, personality traits, and control variables in our model to examine their main effects on our dependent variables (professional efficacy/job performance and well-being). Once we identified which work organization conditions were significantly associated with professional efficacy/job performance in the first model, we evaluated whether those variables were indirectly but significantly associated with professional efficacy/job performance via well-being. We relied on a two-tailed probability for rejection of the null hypothesis ($p \leq .05$) to determine the significance levels of the combined variables as well as for each individual regression coefficient.

Results

Table 1 presents the descriptive statistics of our variables of interest as well as correlational analysis.

Table 2 presents the results pertaining to work organization conditions and well-being's association with professional efficacy/job performance.

The results obtained indicate that job insecurity is negatively associated with professional efficacy/job performance. Inversely, skill utilization, decision latitude, recognition, and job promotion were positively associated with professional efficacy/job performance.

Our results highlight the negative contribution of psychological demands, number of hours worked, and job insecurity to worker well-being. More specifically, those work organization variables were associated with lower levels of worker well-being.

Table 3 presents the results pertaining to the indirect (mediation) contribution of the work organization conditions to professional efficacy/job performance.

Lastly, indirect associations, psychological demands, number of hours worked, and job insecurity were associated with well-being. Those same variables were indirectly associated with lower professional efficacy/job performance levels. Those results allowed us to partially confirm our hypothesis.

Table 1. Descriptive and correlational statistics.

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1	15.25	4.89	1												
2	4.81	1.03	.37**	1											
3	17.72	3.40	.22**	.38**	1										
4	8.63	2.00	.22**	.37**	.63**	1									
5	23.45	3.87	–	−.05*	.20**	.06*	1								
6	1.99	0.96	−.05*	−.03	–	–	−.02	1							
7	40.39	9.09	−.05*	.04	.11**	.10**	.15**	.04	1						
8	0.10	0.30	−.05*	−.02	.03	.02	.16**	.12**	.13**	1					
9	12.54	1.95	.24**	.25**	.27**	.24**	–	–	.00	–	1				
10	11.94	2.60	.22**	.30**	.32**	.36**	–	–	−.01	−.04	.37**	1			
11	3.78	1.30	–	–	–	–	.22**	.11**	−.01	.05*	–	–	1		
12	15.69	2.62	.33** .	.38**	.33**	.36**	–	–	−.01	–	.51**	.62**	–	1	
13	10.33	2.39	.26**	.34**	.45**	.39**	–	–	.04	−.05*	.31**	.40**	–	.51**	1

Note a: $^{*}p \leq .05$ (coefficients $\geq$ .05) and $^{**}p \leq .01$(coefficients $\geq$ .05). *Note b*: M: Mean; SD: Standard deviation; M-M: Minimum-maximum; 1.: Well-being 2.: Professional efficacy; 3.: Skill utilization; 4.: Decision authority; 5.: Psychological demands; 6.: Physical demands; 7.: Number of hours worked; 8.: Work schedule (irregular); 9.: Social support from coworkers; 10.: Social support from supervisor; 11.: Job insecurity; 12.: Recognition; 13.: Job promotion.

Table 2. Direct effects of work organization conditions on well-being and professional efficacy.

	Well-being	Professional efficacy
Constant	11.797**	0.47
Well-being		
Well-being		0.031**
Work organization conditions		
Skill utilization	0.019	0.038**
Decision authority	0.088	0.055**
Psychological demands	−0.138**	0.008
Physical demands	−0.026	0.032
Number of hours worked	−0.025**	0.002
Work schedule	0.018	−0.025
Social support from coworkers	0.076	0.000
Social support from supervisor	−0.008	0.019
Job insecurity	−0.279**	−0.082**
Recognition	0.038	0.037**
Job promotion	0.053	0.027*
Adjustments		
CFI	1.00	
TLI	0.96	
χ^2 (df)	1,651.29 (59)**	

Note: *$p \leq .05$ and **$p \leq .01$.

Table 3. Indirect effects of work organization conditions on well-being.

	Estimate	Two-tailed *p* value
Work organization conditions		
Skill utilization	0.001	.585
Decision authority	0.003	.200
Psychological demands	−0.004	.002
Physical demands	−0.001	.789
Number of hours worked	−0.001	.017
Work schedule (irregular)	0.001	.956
Social support from coworkers	0.002	.264
Social support from supervisor	0.000	.867
Job insecurity	−0.009	.001
Recognition	0.001	.409
Job promotion	0.002	.241

Note: The following variables were controlled for in all models: gender, age, educational level, household income, social support outside the workplace, stressful childhood events, marital status, parental status, marital stress, parental stress, physical activity, self-esteem, locus of control, openness, extraversion, agreeableness, conscientiousness, neuroticism (Unstandardised coefficients).

Discussion

In this study, we were interested in examining whether the association between work organization conditions and professional efficacy/job performance is mediated by well-being. More precisely, we investigated the direct and indirect association between work organization conditions and professional efficacy/job performance via worker well-being. The results obtained partially support our research hypothesis. Psychological demands, number of hours worked, and job insecurity seems to be associated with professional efficacy/job performance through worker well-being (mediation effects). These results align with previous studies on the associations of psychological demands (Ariza-Montes et al., 2018; Jung & Yoon, 2014; Parent-Lamarche & Marchand, 2019a; Schütte et al., 2014; Wong & Lin, 2007) and job insecurity

(Cheng & Chan, 2008; Parent-Lamarche & Marchand, 2019a; Schütte et al., 2014; Sverke et al., 2002) with worker well-being. As for the direct association between skill utilization, decision authority, recognition, and job promotion on professional efficacy/job performance, our findings align with those of previous studies. Our results suggest that psychological demands, number of hours worked, and job insecurity, directly and indirectly influence professional efficacy/job performance through well-being. In other words, work organization conditions are strong enough to still influence professional efficacy/job performance indirectly (mediation effects). These results, therefore, support the assumptions derived from our theoretical conceptualization. The impaired health hypothesis posits that demanding jobs deplete workers' physical and mental resources, potentially resulting in health problems (i.e., low level of well-being). This hypothesis may explain the effect of work organization conditions on well-being (Demerouti et al., 2001). The same holds true for the direct and indirect effect of work organization conditions on professional efficacy/job performance. These associations could also be explained by the motivational hypothesis, which stipulates that resources (i.e., decision authority) have a motivational potential and can lead to excellent job performance (Demerouti et al., 2001).

Practical implications

This study aimed to identify how work-related variables are associated with a multidimensional and positive measure of well-being to influence worker professional efficacy/job performance. The results obtained support our hypothesis regarding the role work organization conditions play in worker well-being, and therefore, professional efficacy/job performance. The findings also highlight the need to target work organization conditions that are directly and indirectly associated with professional efficacy/job performance through worker well-being. Concerning job insecurity, reducing workers' perceived insecurity could be worth undertaking, given its direct association with their well-being and its direct and indirect association with professional efficacy/job performance. This is especially true in a pandemic where job insecurity is likely to negatively affect worker mental health. The COVID-19 pandemic generated an atmosphere of general uncertainty regarding the overall state of the economy, one's finances, social relationships, and health (Godinic, Obrenovic, & Khudaykulov, 2020). Faced with those adverse circumstances, workers may experience more job insecurity as unemployment rates are increasing globally. According to Gangopadhyaya and Garrett (2020), the number of unemployed individuals is believed to exceed 190 million. Given that job insecurity is an important determinant of worker's well-being (Cheng & Chan, 2008; Parent-Lamarche

& Marchand, 2019a; Sverke et al., 2002), it is possible that an increase in job insecurity could drive workers' well-being down while negatively influencing their job performance. One way of going about it would be to increase organizational trust by implementing a more transparent organizational climate (Sora, De Cuyper, Caballer, Peiró, & De Witte, 2013). This transparency could result from improved communication with employees regarding the financial health of the company. In the same vein, increasing employees' decision latitude could help reduce job insecurity and mitigate its negative effect on their mental well-being.

As for mitigating the effect of work demands on worker well-being, reducing psychological demands could be one possible course of action. Previous studies point to the importance of taking proactive measures such as making sure a sufficient number of staff are on hand while avoiding being understaffed. According to Bambra, Egan, Thomas, Petticrew, and Whitehead (2007), strengthening work teams, coming up with a clear staff replacement process, and increasing the number of employees in each team could also help reduce the load psychological demands placed on worker well-being (Bambra et al., 2007).

Based on Bambra et al. (2007) recommendations, diversifying tasks, preserving a team spirit, and allowing employees to work in similar work teams are all worth considering. In terms of the number of hours worked and their negative effect on worker well-being, we recommend that companies draw from Human Resources Management (HRM) practices (Wheatley, 2017). Among those practices are job sharing with another employee and having the option of reducing the number of hours worked by transitioning to a part-time job.

Moreover, skill utilization and decision authority could be worth targeting because of their direct association with professional efficacy/job performance. Relatedly, we would encourage training managers to favor employee's strengths and increase their decisional authority (Fujishiro & Heaney, 2017). As for gratification derived from work (i.e., recognition) and its effect on workers' professional efficacy/job performance, we would encourage communicating this appreciation to the workers. Workplace recognition programs, such as "employee of the month," emphasizing employee's successes, holding recognition days, rewarding years of service, offering performance remuneration, and management rewards are also worth considering. Lastly, as job promotion also seems to play a role in workers' professional efficacy/job performance, we would suggest employees develop the skills that would allow them to occupy a higher-level position (Liu, 2018). Companies are encouraged to offer training to encourage internal promotions. Workers should also communicate personal career aspirations to their managers. By doing so, managers could offer them a clear career path with meetings to guide them along this path.

Limitations and suggestions for future research

This study has some limitations that are worth mentioning. The first limitation is the cross-sectional design of this study does not allow us to draw causal relationships between the variables examined. This study is based on data collected from Canadian companies that could limit external generalization of the results of this study to low and middle-income countries. The study is also based on secondary data, limiting our choices of measures used and variables examined. Had we been able to use primary data, we would have evaluated anxiety disorders or personality disorders such as borderline personality. The same goes for our choice of work organization conditions that was restricted to those already sampled. Relatedly, unobserved variables could have also impacted examined relationships. As such, we could have taken into account variables such as remuneration, leadership styles (i.e., abusive, authentic), well-being programs in the workplace, and human resources management practices. Good management practices can result in good work organization conditions, enhanced employee well-being, and improved job performance. Similarly, including an objective measure of job performance from a work supervisor and examining its role in our model could have been worth undertaking. A subjective job performance measure could be influenced by social desirability and self-assessment bias. It is possible that individuals with higher levels of well-being evaluated their performance in a more positive light. Furthermore, it is worth noting that data were collected around 10 years ago and workplace environments, employee relationships with supervisors, etc. may have changed since. Future research should examine if those effects still hold with more recent data. One additional limitation worth mentioning pertains to the sample we recruited from, which could have added some bias. Indeed, all our data were based on the same source. Previous studies demonstrated that this variance bias is small (Marchand et al., 2015) in addition to being somewhat limited due to the diverse sectors our companies operated in. More specifically, this diversification encompasses economic sectors, company sizes, and employees' possible unionization. One also needs to pay attention to the low response rate (41%) that could indicate a selection bias. Many of the behaviors and attitudes evaluated in surveys strongly correlate with willingness to participate in research studies (Barclay, Todd, Finlay, Grande, & Wyatt, 2002). More specifically, if employees struggling with mental health issues were more likely to participate in the study, the number of companies with higher well-being levels could have been underestimated. Relatedly, one needs to entertain the possibility that workers displaying low well-being levels at the outset of the study were more likely to evaluate their work organization conditions negatively. Factors pertaining to the physical context of the work environment such as dust, noise, extreme heat and cold, health and safety, and other variables (mentioned in the work contract) could have also been pertinent to consider.

In sum, this study contributed to the body of literature pertaining to well-being and professional efficacy/job performance determinants. More specifically, we were interested in the association between work organization conditions and a general or "context-free" positive measure of well-being in a sample of Canadian workers and organizations and their association with professional efficacy/job performance. This stands in contrast with previous studies favoring "domain-specific" variables such as burnout, job satisfaction, or negative well-being indicators such as depression and anxiety. Although "domain-specific" variables are related and can influence well-being, they are distinct constructs (Fernández-Berrocal, Gutiérrez-Cobo, Rodriguez-Corrales, & Cabello, 2017). Studies examining the association between work organization conditions, worker well-being, and professional efficacy/job performance are still scarce. Additionally, individual variations in levels of well-being over time merit our attention. The reason behind this statement is related to changes one could perceive in his/her well-being levels. Given its momentary duration, identifying variables that are likely to contribute to one's well-being could be worth undertaking. Those variables could create virtuous circles of well-being that could later translate into virtuous circles of job performance. Our suggestion is based on Bakker and Demerouti (2018), who advanced that well-being variables could lead to positive cycles over time. In doing so, companies could be favoring organizational cultures where worker well-being and job performance are maximized.

Lastly, this study adds to the scientific literature by providing additional answers regarding the association between work organization conditions and worker well-being and professional efficacy/job performance. Future studies are encouraged to identify possible contributions of other work organization conditions to job performance. In doing so, we recommend that future researchers consider other mental health outcomes while incorporating objective performance measures.

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ORCID

Annick Parent-Lamarche http://orcid.org/0000-0003-0908-4522

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Appendix 1.

Descriptive table summarising key characteristics of companies ($n = 63$) and employees included in the sample ($n = 1,957$).

	Mean/Proportion	Standard deviation	Min-max
Companies' key characteristics			
Secondary sector	30.2%		
Tertiary sector	69.8%		
Presence of a union	34.9%		
Size	247.1		25–1,900
Employees' key characteristics			
Sex (Women)	48.95%		
Age (in years)	40.6	10.8	17–70
Educational level	4.60	2.29	1–10
Household income	6.93	3.38	1–12
Social support outside the workplace	.83	0.37	0–1
Stressful childhood events	1.17	1.31	0–7
Marital status (couple)	69.7%		
Parental status (with children)	87.12%		
Marital stress	.45	0.92	0–4
Parental stress	.22	0.57	0–3
Physical activity	4.16	2.10	1–7

Appendix 2.

Items included in each scale.

Variables	List of items
Dependent variables	
Professional efficacy/Job performance	I can effectively solve the problems that arise in my work; I feel I'm making an effective contribution to what this organization does; In my opinion, I am good at my job; I feel exhilarated when; I accomplish something at work; I have accomplished many worthwhile things in this job.
Mediator	
Well-being	Over the last to weeks: I have felt cheerful and in good spirits; I have felt calm and relaxed; I have felt active and vigorous; I woke up feeling fresh and rested; My daily life has been filled with things that interest me.
Work organization conditions	
Skill utilization	My job requires that I learn new things; My job requires a high level of skill; My job requires me to be creative; My job involves a lot of repetitive work, reverse coded; I get to do a variety of different things on my job; I have the opportunity to develop my own special abilities.
Decision authority	On my job I have the freedom to decide how I do my work; My job allows me to make a lot of decisions on my own; I have a lot to say about what happens on my job.
Psychological demands	My job requires working very fast; My job requires working very hard; I am not asked to do an excessive amount of work, reverse coded; I have enough time to get the job done, reverse coded; I am free from conflicting demands that others make, reverse coded; My job requires long periods of intense concentration on the task; My tasks are often interrupted before they can be completed, requiring attention at a later time; My job is very hectic; Waiting on work from other people or departments often slows me down on my job.

(*continued*)

Continued.

Variables	List of items
Physical demands	My work requires physical effort.
Social support from supervisor	My supervisor is concerned about the welfare of those under him; My supervisor pays attention to what I'm saying; My supervisor is helpful in getting the job done; My supervisor is successful in getting people to work together.
Social support from coworkers	The people I work with are competent in doing their jobs; The people I work with take a personal interest in me; The people I work with are friendly; The people I work with are helpful in getting the job done.
Job insecurity	I have experienced or I expect to experience an undesirable change in my work situation; My employment security is poor.
Recognition	Considering all my efforts and achievements, I receive the respect and prestige I deserve at work; I receive the respect I deserve from my superiors; I receive the respect I deserve from my colleagues; I am treated unfairly at work, reverse coded; I experience adequate support in difficult situations.
Job promotion	My job promotion prospects are poor, reverse coded; My current occupational position adequately reflects my education and training; Considering all my efforts and achievements, my job promotion prospects are adequate; Considering all my efforts and achievements, my salary/income is adequate
Number of hours worked	On average, about how many hours *a week* do you work at your job? For example, if you work 17 and half hours, please write 17.5
Work schedule (irregular)	In your *present job*, are you exposed to irregular or unpredictable work schedule?
Control variables	
Sex	0 = Men and 1 = Women
Age	Number of years
Educational level	The highest academic degree obtained and was comprised of 10 categories that referred to the number of years necessary to obtain each degree from the lowest number to the highest (1 = None, 2 = High school, 3 = Professional school, 4 = College (General), 5 = College (Technical), 6 = University (Undergraduate certificate), 7 = University (Bachelor's degree), 8 = University (Graduate diploma), 9 = University (Master's degree), 10 = University doctorate).
Household income	Computed before tax deduction and was based on the income earned the year preceding the study (1 = Less than $20,000, 12 = $120,000 or more
Social support outside the workplace	Among family and friends, is there someone you can confide in or talk freely about your problems?; Among family and friends, is there someone who would help you in time of need?; Among family and friends, is there someone you feel close to, who shows affection for you?; Do you use the Internet (chatroom, Facebook, My Space, etc.) to get help or support?
Stressful childhood events	Did you spend 2 weeks or more in the hospital?; Did your parents get a divorce?; Did your father or mother not have a job for a long time when they wanted to be working?; Did something happen that scared you so much you thought about it for years after?; Were you sent away from home because you did something wrong?; Did either of your parents drink or use drugs so often that it caused problems for the family? Were you ever physically abused by someone close to you?
Marital status	0 = Single, 1 = Being part of a couple
Parental status	0 = No, 1 = Yes
Marital stress	Your partner doesn't understand you; Your partner doesn't show you enough affection; You partner is not committed enough to your relationship; In the past 12 months, did you have increased arguments with your partner?
Parental stress	One of your children seems very unhappy; A child's behavior is a source of serious concern to you; In general, how would you describe your relationship with your children?

(*continued*)

Continued.

Variables	List of items
Physical activity	Frequency of 20 min workouts spanning a period of three months preceding the study.
Self-esteem	You feel that you have a number of good qualities; You feel that you're a person of worth at least equal to others; You are able to do things as well as most other people; You take a positive attitude toward yourself; On the whole you are satisfied with yourself; All in all, you're inclined to feel you're a failure, reverse coded.
Locus of control	You have little control over the things that happen to you; There is really no way you can solve some of the problems you have; There is little you can do to change many of the important things in your life; You often feel helpless in dealing with problems of life; Sometimes you feel that you are being pushed around in life; What happens to you in the future mostly depends on you, reverse coded; You can do just about anything you really set your mind to, reverse coded.
Openness	I see myself as someone who has a vivid imagination; I see myself as someone who is not interested in abstract ideas, reverse coded; I see myself as someone who has difficulty understanding abstract ideas, reverse coded; I see myself as someone who does not have a good imagination, reverse coded.
Extraversion	I see myself as someone who is the life of the party; I see myself as someone who doesn't talk a lot, reverse coded; I see myself as someone who talks to a lot of different people at parties; I see myself as someone who remains in the background.
Agreeableness	I see myself as someone who sympathizes with others' feelings; I see myself as someone who is not interested in other people's problems, reverse coded; I see myself as someone who feels others' emotions; I see myself as someone who is not really interested in others, reverse coded.
Conscientiousness	I see myself as someone who gets chores done right away; I see myself as someone who often forgets to put things back in their proper place, reverse coded; I see myself as someone who likes order; I see myself as someone who makes a mess of things, reverse coded.
Neuroticism	I see myself as someone who has frequent mood swings; I see myself as someone who is relaxed most of the time, reverse coded; I see myself as someone who gets upset easily; I see myself as someone who seldom feels blue.