

## Psychosocial Risks and Subjective Well-Being in the Canadian Workplace. Overlapping Risk Exposure, Work Ethic, and Resilience.

Stephane Moulin  
University of Montreal

### Abstract

This article puts forward a new typology of workers, based on an enhanced set of indicators of psychosocial risks and well-being, and examines the character traits associated with each class membership. This article innovates by simultaneously taking into account how hostile behaviours, poor working conditions, and employment precariousness are associated with different subjective measures of well-being. This study uses a person-centered approach by conducting latent class analysis on a representative sample of 5,867 Canadian employees. Six distinct clusters are revealed: “heavily suffering”, “unfulfilled precarious”, “unhealthy stressed”, “untroubled harassed”, “optimistic precarious” and “not exposed”. This article thus shows that it is not harassment or lack of social benefits *per se* that affect workers’ well-being. It demonstrates that workers’ well-being deteriorates only when hostile behaviours/conflicts and poor working/employment conditions overlap. Binary logistic regression analyses reveal that, controlling for other worker characteristics, this typology of workers is related to work ethic and resilience. The results suggest two key trends: overlapping exposure to precariousness, procedural injus-

tice and poor prospects for career advancement reduces hard work ethic, while overlapping exposure to hostile behaviour/conflicts and competition reduces resilience.

*Keywords:* well-being, precariousness, harassment, work ethic, resilience

Psychosocial risks are among the most challenging issues in the workplace, affecting both workers’ performance and satisfaction and causing serious health problems (Sparks et al., 1997; Stansfeld & Candy, 2006; Sverke et al., 2002). The literature on psychosocial risks shows that workers’ well-being is influenced by a wide range of contexts and behaviours such as harassment and bullying (Einarsen et al., 2020), micro-aggressions (Pettigrew & Martin, 1987) or everyday discrimination (Deitch et al., 2003), procedural injustice (Schmitt & Dörfel, 1999), job strain (Karasek, 1979; Theorell et al., 2015), precarious employment (Benach et al., 2014; Benavides et al., 2000), irregular work schedule (Martens et al., 1999), and over-qualification (Johnson & Johnson, 1996).

However, different measures of subjective well-being impact research findings and conclusions regarding the associations between psychosocial

risks and workers’ well-being. Subjective well-being in organizations (Bakker & Oerlemans, 2011) covers different aspects of workers’ perceptions such as overall job satisfaction (Wanous et al., 1997), standard of living (Bérenger & Verdier-Chouchane, 2007), work-life balance (Kalliath & Brough, 2008), or self-reported physical or mental health (Mossey & Shapiro, 1982). Certain findings suggest that bullying/conflicts and working/employment conditions have distinct relationships with well-being (Mayerl et al., 2017; Notelaers et al., 2018; Vanroelen et al., 2010). While multi-foci approaches to hostile behaviours show less deleterious effects of outside-initiated aggression (Hango & Moyser, 2018; Hershcovis & Barling, 2010), Peckham et al. (2019) identified “optimistic precarious workers” who do not significantly report lower well-being. In a study based on a survey of managers employed by a large Canadian organization, optimism was found to be a significant predictor of both career success and job satisfaction (Neault, 2002). Many authors also suggest that a strong work ethic (Furnham, 1984; Khan et al., 2015) and resilience (Hartmann et al., 2020; Rees et al., 2015) can play a powerful protective role against hostile behaviours and procedural injustice. The contribution of the

different psychosocial factors to well-being is thus still unclear.

While most of the literature on psychosocial factors adopts a standard variable-centered approach, this article uses a person-centered strategy based on latent class analysis (LCA; Wang & Hanges, 2011). Focusing on similarities among workers, this approach has previously been used to identify a new typology of workers who share similar patterns of response to hostile behaviours (Leon Perez et al., 2013; Notelaers et al., 2006, 2018), occupational stressors (Mayerl et al., 2017; Vanroelen et al., 2010), or poor employment conditions (Gevaert et al., 2020; Peckham et al., 2019; Savage et al., 2013; Van Aerden et al., 2016; Van Aerden et al., 2017). This article innovates by simultaneously taking into account how hostile behaviours, poor working conditions, and employment precariousness are associated with different subjective measures of well-being. It has a twofold objective: 1) to identify distinct subgroups of subjects with similar profiles, based on the different indicator variables for psychosocial risks and well-being; and 2) to explore the character traits associated with each class membership.

This article is divided into five sections. The first section identifies the main psychosocial risks in the workplace. The second section reviews existing typologies of individual workers with similar psychosocial profiles based on Latent Class Analysis (LCA). The third describes the data, measures, and analytical strategy used in

the current study, while the fourth presents the main results. The fifth and concluding section discusses the results and identifies the limitations of the study.

### Theoretical frameworks of Psychosocial Risks in the Workplace

This section highlights the impact of three different sets of psychosocial risks on workers' well-being: hostile behaviours of three specific perpetrators, namely supervisors, co-workers and clients; working conditions such as job demands, decision latitude, procedural justice, conflicts, and social support; and employment conditions such as terms of employment, work schedules, social benefits, prospects for career advancement, and job mismatches.

Studies using the "hostile behaviours" approach examine specific deviant behaviours such as bullying, harassment and discrimination (Huang et al., 2018). Harassment and bullying manifest in different forms such as verbal abuse, humiliating behaviour, threats, physical violence, and sexual harassment (Hango & Moyser, 2018). Translating into occupational segregation and stagnant careers, employer favoritism locks workers into under-challenging tasks or work overload and puts them at greater risk for both physical and mental health problems (Krieger, 2014; Roberts et al., 2004). Low-intensity deviant workplace behaviour such as "micro-aggressions" (Pettigrew & Martin, 1987), "everyday discrim-

ination" (Deitch et al., 2003), and "workplace incivility" (Anderson & Pearson, 1999; Schilpzand et al., 2016) are more subtle, pervasive or ambiguous hostile behaviours. Health problems result from harassment (Leymann, 1996; Leymann & Gustafsson, 1996) and from subtle everyday discrimination (Pavalco et al., 2003). Multi-foci approaches to hostile behaviours have shown that aggression outcomes differ in magnitude by source: a weaker association exists between workplace harassment and well-being in the case of harassment by a client or customer than in the case of harassment by a supervisor or co-worker (Hango & Moyser, 2018; Hershcovis & Barling, 2010).

Beyond the factors related to hostile behaviours, many working conditions have been shown to affect employees' well-being. The reference epidemiological model for analyzing the links between work strains and health and well-being is Karasek's Job Demand Control Model (JDC) model (Karasek, 1979). Various meta-analyses suggest that low decision latitude combined with high psychological demand constitutes a risky situation for health and well-being (Stansfeld & Candy, 2006; Theorell et al., 2015). Among job demands, longer working hours in particular may be associated with lower well-being, causing stress, fatigue, sleeping problems, and anxiety (Afonso et al., 2017). Conflicts at work can have negative long-term consequences for individual health

and well-being (De Dreu et al., 2004), and a competitive psychological atmosphere is associated with greater stress (Fletcher et al., 2008). Greater procedural justice (Schmitt & Dörfel, 1999), higher levels of involvement (Boxall & Macky, 2014), and employee participation (Knudsen et al., 2011) are also particularly predictive of higher well-being in workers. Supervisory support reduces daily conflicts between work and family life (Goh et al., 2015) and co-worker support appears to play a protective role against some of the negative effects of mistreatment (Sloan, 2012). While teleworkers have more work autonomy and better career prospects, telework can also intensify work-family conflicts and increase stress because it blurs the boundaries between home and workplace (Song & Gao, 2020; Sullivan & Lewis, 2001; Tavares, 2017). Empirical evidence also suggests that workplace isolation has an impact on employee well-being (Sahai et al., 2020).

Employment conditions are also a focal point in any analysis of employees' health and well-being. The different ways in which employment is secured help explain the emergence of a wide range of serious and chronic health problems such as depressive disorders, musculoskeletal disorders, back pain and stroke (Benach et al., 2014). Workers tend to be happier when work is less precarious (Inanc, 2020). Those with a permanent contract have more information about the workplace hazards, experience less hazard-

ous working conditions and tend to have better health outcomes (Benavides et al., 2000). Workers with irregular work schedules tend to have more health problems and to report lower well-being than workers with non-flexible work schedules (Martens et al., 1999). Overqualified workers also tend to report lower psychological well-being (Johnson & Johnson, 1996). To incorporate these elements into a model of psychosocial risks, certain researchers developed the idea of "employment strain" (Bosmans et al., 2017; Lewchuk et al., 2003).

### Typologies of Psychosocial Profiles and Research Objectives

Since workers encounter various forms of exposure to a wide variety of psychosocial factors, current research shows special interest in LCA as a means of identifying different profiles and exploring the factors that explain class membership.

We identified three sets of research findings. The first set focused on identifying classes based on a set of measures of conflicts and hostile behaviours within the workplace. Notelaers et al. (2006) distinguished six latent classes of individual workers based on the level and nature of their exposure to bullying: not bullied, limited work criticism, limited negative encounters, sometimes bullied, work-related bullying and victims: while respondents who were "not bullied" reported a higher level of pleasure at work, victims reported much less pleasure at work and

more worries. Leon Perez et al. (2013) proposed a bullying typology distinguishing six different groups according to the nature and intensity of the reported bullying behaviours: not exposed, rarely exposed, negative working conditions, work-related bullying, severe bullying, and bullying and aggression. More recently, Notelaers et al. (2018) found conflict-aggression and bullying to have distinct relationships with well-being and strain outcomes.

The second set of research findings focused on stress profiles. This literature not only supports the existence of different clusters of psychosocial risks, but also suggests a complex relationship between social position and well-being. Using a large number of occupational stressors and working conditions, Vanroelen et al. (2010) identified five different stress clusters: low stress, passive-manual, human contact, high stress and high demand. These clusters showed distinct associations with emotional problems and musculoskeletal complaints. Using LCA separately for health symptoms and job demands, Mayerl et al. (2017) identified four symptom clusters (healthy, tensed up, exhausted and heavily suffering) and four stress clusters (low burden, psychosocial burden, physical burden and high burden). They found diverse constellations of job demands to be differentially associated with specific symptom clusters.

Lastly, the third set of LCA research findings tended to focus on employment conditions.

Savage et al. (2013) demonstrated that, alongside an ageing traditional working class, there is a “precariat” class characterized by high levels of insecurity. European studies have reported a significant association between employment quality types and general health indicators, indicating that de-standardized employment tends to be related to lower job satisfaction, and to general and mental health problems (Van Aerden et al., 2016; Van Aerden et al., 2017). Gevaert et al. (2020) also found clear evidence of a health gradient in employment quality types. However, examining the association of health outcomes with different types of employment in the contemporary U.S. labour market, Peckham et al. (2019) found a more differentiated pattern: while precarious job holders are more likely to report lower well-being, “optimistic precarious job holders” are no different from workers in standard employment relationships on any of the indicators of well-being.

These studies focused on one of the three dimensions of psychosocial risks – i.e. hostile behaviours, poor working conditions, or employment precariousness – to respectively identify bullying, stress and employment profiles. This article innovates by simultaneously taking into account these three different dimensions of psychosocial risks. Its main purpose is to propose a general typology of workers, based on an enhanced set of indicators of psychosocial risks and well-being, and examine the character traits associated

with each class membership. The objective of the current study is thus twofold: 1) to identify psychosocial profiles based on a wide range of psychosocial factors (conflicts and hostile behaviours from supervisors, co-workers or clients, job strains, discrimination, working and employment conditions) and on subjective well-being (job satisfaction, sense of accomplishment, standard of living, work-life balance, stress, self-reported physical or mental health), and 2) to explore the character traits (resilience and work ethic) associated with each class membership.

## Methods

### Data

This article uses data from the 2016 General Social Survey (GSS) on Canadians at work and home. The overall survey response rate was 50.8%, while the total sample size was 19,609. The article focuses on respondents aged 15 to 64 who worked for pay during the preceding 12 months (i.e. approximately 9,000 respondents). The resulting sample size, after deleting cases with missing data, was 5,867.

### Measures

#### *Well-being, Stress and Satisfaction*

Respondents were asked to rate their level of satisfaction with their job in general, the degree to which they felt a sense of accomplishment or a sense of doing use-

ful work, and the degree to which they felt a sense of belonging to the organization they worked for. Self-ratings of health and mental health, including 5-point Likert-scaled single items, were used as general health indicators. Respondents were also asked whether they had psychological difficulty (learning, remembering or concentrating), mental health conditions and permanent or recurring pain. Stress was assessed using a single-item measure of experienced stress feelings: when respondents said that most days were “quite stressful” or “extremely stressful,” they were regarded as experiencing a high level of stress. Respondents were also asked to rate their level of satisfaction with the balance between their job and home life, with their life as a whole, with their standard of living and with what they were achieving in life: when respondents rated 7 or more on the scale from 0 to 10, they were regarded as satisfied.

#### *Hostile Behaviour*

Five types of workplace harassment were examined in the GSS survey: verbal abuse, humiliating behaviour, threats, physical violence, and sexual harassment (Hango & Moyser, 2018). Three different perpetrators were also listed as potentially responsible for each of the categories of harassment in the workplace: supervisor or manager, co-worker or peer, and client or customer. The five different types of harassment were combined to derive three general measures of hostile behaviours

from supervisors, peers and clients. Two indicators were derived from the different types of unfair treatments at work, namely subtle discrimination or micro-aggression (being ignored by others, made to feel uncomfortable, or being talked about behind your back) and employer favoritism (denying promotions or training or giving too much work or less challenging work).

### *Working Conditions*

Participants were asked how often they considered their workload manageable and how often they were able to complete their assigned workload during their regular working hours. Respondents were also asked how often they were able to choose the sequence of their tasks and how easy it was for them to take an hour or two off for personal or family matters during working hours. To measure organizational procedural injustice, respondents were asked to rate their level of agreement with the two following statements: “I have opportunities to provide input into decisions” and “Work is distributed fairly in my workplace.” Respondents were also asked how often in the previous month their co-workers had tried to take credit for work that they had done or tried to give them work that was their responsibility. Indicators were derived for level of help and support and for level of conflicts with both co-workers and supervisors. An overtime indicator was used when they reported working more than 48 hours a

week. Respondents who reported usually working even some of their scheduled hours at home were regarded as teleworkers. Lastly, two additional indicators of poor relationships with co-workers were used: no friends at work and competition with co-workers.

### *Employment Conditions*

Eight different indicators were used to measure poor employment conditions or employment strains: irregular employment term (seasonal, temporary, casual or on call); insurance benefits (pension plan, disability insurance or supplemental medical or dental care); leave benefits (paid sick leave, vacation leave or maternity/parental leave); atypical work schedule (evening or night shift, rotating or split shift, compressed work week, on call or irregular); non-coverage status (not covered by a collective agreement); self-reported over-qualification; inadequate match between skills and duties (when respondents declared having the skills to handle more demanding duties); and poor prospects for career advancement.

### *Hard Work Ethic*

To measure hard work ethic, this study used a one-dimension (3-item) scale derived from the Blau and Ryan (1997) Protestant Work Ethic multidimensional scale. Respondents were asked to rate their level of agreement with the three following statements: “I am happiest when I work hard”; “I am willing to put in the extra effort

to get the job done, even if I am not rewarded for it”; and “The best reward from working is a sense of accomplishment.” Item responses ranged from 1 (strongly disagree) to 10 (strongly agree). The Cronbach alpha for hard work ethic was 0.63. Raw item scores were summed and averaged. A four-level ordinal variable was derived: very high, high, fair and low level of hard work ethic.

### *Resilience*

To measure resilience, this study used a one-dimension (5-item) scale derived from Wagnild and Young (1993). Respondents were asked to rate how often they a) had enough energy to meet life’s challenges, b) had a hopeful view of the future, c) were confident in their abilities, even when faced with challenges, d) had something to look forward to in life and e) were able to bounce back quickly after hard times. The Cronbach alpha for hard work ethic was 0.79. Raw item scores were summed and averaged. A four-level ordinal variable was derived: very high, high, fair and low level of resilience.

### *Covariates*

Educational status and personal income were classified on a five-level hierarchy. Occupation was used to derive a six-group nominal variable: managers, experts, technicians, supervisors, white-collar workers, and blue-collar workers. A dummy variable comparing women to

men was used. Ethnic identity was simply measured by a three-group nominal variable: visible minority, aboriginal and white. Three age groups were distinguished: 15-34; 35-54; 55-64. One indicator of physical disability was also used to identify those who reported being “sometimes,” “often” or “always” limited in their daily activities due to a physical difficulty (seeing, hearing or mobility-related).

### Analytical Strategy

Our analysis consisted of two main steps. In the first step, LCA was used to identify subgroups of individuals showing similar profiles. In the second step, logistic regressions were performed to predict latent class membership. All statistical analyses were performed using Stata software.

LCA was applied to psychosocial risks and well-being profiles to identify the different clusters. For the purpose of statistical model selection, we used the relative improvement in model fit (based on the log-likelihood-function) between the  $k$ -class and the  $(k + 1)$ -class model, the Akaike information criterion (AIC; Akaike, 1998) and the Bayesian information criterion (BIC; Schwarz, 1978), which are the most frequently used indicators for defining the number of latent classes. Stata's command *gsem* (generalised structural equation modelling) was used to fit the latent class models. For the analysis of each latent class model, constraints were applied to set the logit inter-

cepts of problematic variables at  $-15$  or  $+15$ , and the model with the usual tolerance options was run to ensure a stable globally maximum likelihood model fit.

Binary logistic regression analyses were performed on the modal latent class values associated with each respondent. The indicators of social positions, identities, and workers' character traits were used as independent variables. Cross-tabulation was used to describe the statistical associations between the modal latent class and the two character traits (resilience and hard work ethic). The gross and net odd ratios were calculated to study the latent class membership. Weighted estimates and bootstrap variance estimates were used to take into account the complex survey design in the prediction of latent class membership.

### Results

Table 1 shows the results of the latent class modelling for the data when one to seven latent class solutions were specified as possible model solutions. The likelihood increased only slightly from the 3-class model to the 7-class model, and the BIC and CAIC values pointed to the 5- or 6-class solution. The 6-class solution seemed both to best fit the data and permit good differentiation of the posterior probability profiles.

The model divided the GSS respondents into six profiles, which constituted approximately 8% (Cluster 1), 12% (Cluster 2), 13% (Cluster 3), 11% (Cluster 4), 32% (Cluster 5) and 24% (Clus-

ter 6) of the population. Table 2 presents the estimated mean for 19 items in the six-class model based on the median latent class values of posterior probabilities. These 19 items have been selected amongst the 41 items used in the latent class modeling to illustrate the most striking differences between the various clusters.

The first and fifth profiles were the two most diametrically opposed clusters: 32% of the Canadian employees (Cluster 5) were “not exposed” and had a sense of overall satisfaction, while 8% of them (Cluster 1) were “heavily suffering,” exposed to an overlapping set of psychosocial risks and reported a lower overall well-being. Workers from Cluster 1 reported the lowest level of well-being on nine indicators and the highest psychosocial risks on 21 indicators. While 37% of the employees in Cluster 1 had been humiliated in the previous year and 41% had experienced harassment from supervisors, no employees from Cluster 5 had been exposed to hostile behaviour. Poor prospects for career advancement were faced by 66% of these “heavily suffering” employees compared to only 18% of the workers in the “not exposed” Cluster.

While Cluster 1 scored higher on three indicators of harassment (humiliating behaviour, harassment from supervisors and peers), Cluster 4 scored higher on three others (verbal abuse, threats, physical violence, and harassment from clients). However, the workers from Cluster 4 did not report significantly lower well-being;

**Table 1***Model selection criteria of the seven models (N=5867)*

	<b>LL</b>	<b>Δ LL</b>	<b>BIC</b>	<b>Δ BIC</b>	<b>AIC</b>	<b>Δ AIC</b>
Model 1 - 1 class	-121258,1		242932,7		242612,2	
Model 2 - 2 class	-114052,5	6,32	228946,6	6,11	228299	6,27
Model 3 - 3 class	-112684,2	1,21	226574,5	1,05	225646,4	1,18
Model 4 - 4 class	-111038	1,48	223663,9	1,30	222442	1,44
Model 5 - 5 class	-109854,7	1,08	221644,4	0,91	220155,4	1,04
Model 6 - 6 class	-109155,1	0,64	220522,9	0,51	218820,2	0,61
Model 7 - 7 class	-108627,6	0,49	219875,6	0,29	217859,1	0,44

LL: Log-likelihood.  $\Delta LL = ((-2 \cdot LL_k - 1) - (-2 \cdot LL_k)) / (-2 \cdot LL_k) \cdot 100$ .

BIC: Bayes Information Criterion.

AIC: Akaike Information Criterion.

instead, they had a probability of overall satisfaction with their jobs (94%) that significantly exceeded the overall relative frequencies of all workers in the sample (85%). Workers from this fourth cluster can thus be labelled as “untroubled harassed.” The differential of well-being between the fourth and first clusters can be explained by the type of perpetrator (58% were harassed by clients in Cluster 4 compared to only 29% in Cluster 1), as well as by the other differentials of psychosocial risks, particularly poor prospects for career advancement (22% compared to 66%), opportunities to provide input (93% compared to 52% respectively) and supervisor’s social support (89% compared to 56% respectively). These

harassed workers thus appeared to be “untroubled” because they had relatively good working and employment conditions.

Clusters 2 and 6 can both be labelled as “precarious” clusters: while Cluster 6 was defined by the high probability of people in this group getting no social benefits, Cluster 2 workers were characterized by higher rates of irregular work schedules and poorer terms of employment. However, Cluster 6 workers are identified here as “optimistic precarious” job holders since they were no different from the “not exposed” workers on any of the indicators of well-being. Comparatively, Cluster 2 workers not only reported lower job satisfaction (45% compared to 99%), but also the lowest sense of

accomplishment (14%), of usefulness at work (41%) and of belonging to the organization (36%). This cluster of workers is thus labelled here as “unfulfilled precarious.” Their much lower sense of accomplishment can be attributed to overlapping exposure to different poor working and employment conditions, such as lack of procedural justice, poor prospects for career advancement and an inadequate match between their skills and knowledge.

A last cluster is labelled as “unhealthy stressed.” This cluster indeed turned out to be the unhealthiest cluster of workers, as they reported the lowest self-ratings on physical and mental health indicators and were as likely to experience psychological diffi-

**Table 2**

*Latent class analysis profile (%)*

	One	Two	Three	Four	Five	Six	Total
<b>Cluster size</b>	<b>8</b>	<b>12</b>	<b>13</b>	<b>11</b>	<b>32</b>	<b>24</b>	<b>100</b>
<b>Well-being indicators</b>							
Job satisfaction	34,5	45,3	86,2	94,2	99,1	98,6	85,1
Achievements in life	29,6	50	47,9	85	94,3	89,4	75,6
Sense of accomplishment	22,8	14,1	74,8	82,8	88,4	90,1	72,3
Sense of belonging	40,2	36,2	85,9	89	96	94,5	82,6
Good mental health	24,1	62	19	61,1	77	81,8	62,7
Stress in life	49,4	15,2	45,1	25	16,3	10,8	22,3
<b>Hostile behaviour/conflicts</b>							
Verbal abuse	56	0	0	69,6	0	0	12,4
Humiliating behaviour	37	0	0	19,2	0	0	5,2
Harassment from supervisors	40,7	0	0	17,8	0	0	5,3
Harassment from clients	28,7	0	0	58	0	0	8,9
Micro-aggressions	29,1	4,1	5,7	12,1	0	0	5,0
Conflicts with supervisor	56,5	19,3	30	23,3	8,7	6,6	17,8
<b>Working/employment conditions</b>							
Opportunity to provide input	51,9	68	92,9	93,3	95,9	96,8	88,5
Supervisor support	55,5	74,6	89,1	88,7	96,6	95,5	88,5
Competition	47,4	23,4	40,3	31,6	23,2	15,9	26,6
Insurance benefits	35,7	39,8	47	62,3	100	6,1	54,1
Bad prospects for careers	65,5	58,6	27,9	22,1	17,9	18,2	28,4
Job mismatch	38,7	33,8	14	17,9	8,9	10,5	16,3
Irregular term	13,8	21,7	13,7	12,4	6,5	17,2	13,0

The prevalence of non-resilient workers was found to be particularly low in the “not exposed” (9%) and “optimistic precarious” clusters (12%), and very high among the “heavily suffering” employees (61%) and the “unhealthy stressed” workers (40%). Similarly, the prevalence of workers with a weak work ethic was found to be very low in the “not exposed” (8%) and “optimistic precarious” (12%) clusters, but very high in the “heavily suffering” (31%) and “unfulfilled precarious” clusters (36%).

The analysis of the net effects of the character traits and covariates makes it possible to confirm the central role of work ethics and resilience in explaining each class membership. A gender effect was clear, in that women were more likely than men to be classified as “untroubled harassed” and less likely to be classified as “unfulfilled precarious.” There was also clear evidence of systematic inequalities due to physical limitations: 20% (16%) of the “heavily suffering” employees (“unhealthy stressed”) were “often” or “always” limited in their daily activities due to a physical difficulty (seeing, hearing, or mobility-related), compared to only 4-5% in the other clusters. Young employees were more likely to fall into the two precarious clusters. A social gradient was observed, albeit reduced and confined only to the “unfulfilled precarious” and “not exposed” clusters. After controlling for all these covariates, there is still a significant net effect of hard work ethic and resilience

culty, pain and stress in life as the “heavily suffering” workers from Cluster 1. While these workers did not experience any harassment behaviours in their workplace, they nonetheless faced higher levels of conflicts and competition.

Table 3 shows the distribution of the modal latent class values over the two character traits: hard work ethic and resil-

ience. The results highlighted a clear and substantial statistical association between the modal latent class values and the workers’ character traits. Workers with a stronger work ethic and resilience tended to be overrepresented in the two “most satisfied” and “less exposed” clusters, but underrepresented in the three “most unsatisfied” and “exposed” clusters.

(Table 3). When all other covariates are controlled for, the very highly resilient worker is twelve (eight) times less more likely to fall into the “heavy suffering” (“unhealthy stressed”) cluster compared to a low resilient worker. Similarly, a worker with a very strong work ethic is six times less likely to fall into the “unfulfilled precarious” clusters compared to a worker with a weak hard work ethic.

**Discussion and Conclusion**

The first result of our study pertains to the impacts of workplace harassment, which were found to differ depending on

the characteristics of two clusters: while there was a cluster of “heavily suffering” workers who were more exposed to all psychosocial risks (including workplace harassment), there was another cluster of “untroubled harassed” workers who were more frequently victims of verbal abuse and physical violence and more frequently harassed by clients, yet who did not report significantly lower well-being. This result confirms the findings of the multi-foci approaches to hostile behaviours, which show less deleterious effects of outside-initiated aggression (Hango & Moyser, 2018; Hershcovis & Barling, 2010). However, this study innovates by showing

that it is neither the type of perpetrator nor the form of harassment that is most predictive, but rather the overlapping of hostile behaviours, procedural injustice, lack of social support, and employment precariousness that substantially deteriorates workers’ well-being. Harassment is thus negatively associated with workers’ well-being when it is perceived as a breach of trust with the entire organization and society.

The second salient result concerns the impact of working and employment conditions on workers’ well-being. The LCA pointed to two distinct “precarious” clusters. On the one hand, the “unfulfilled precarious” workers

**Table 3. Latent class frequencies and net effects of hard work ethics and resilience**

	Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5		Cluster 6		Total
	Heavy suffering		Unfulfilled precarious		Unhealthy stressed		Untroubled harassed		Not exposed		Optimistic precarious		
Cluster size	8%		12%		13%		11%		32%		24%		-
	%	Net effect	%	Net effect	%	Net effect	%	Net effect	%	Net effect	%	Net effect	%
<b>Hard work ethic</b>													
Low	31	ref	36	ref	17	ref	15	ref	8	ref	12	ref	16
Fair	46	0,65**	42	0,42***	42	1,09	15	0,85	38	2,33***	41	1,37*	40
High	17	0,37***	16	0,2***	31	1,36	37	1,17	36	3,12***	30	1,19	30
Very high	6	0,35***	6	0,17***	10	1,03	13	0,97	18	3,3***	17	1,45*	14
<b>Resilience</b>													
Low	61	ref	30	ref	40	ref	17	ref	9	ref	12	ref	21
Fair	24	0,27***	28	0,73*	36	0,57***	33	1,4	29	2,44***	31	2,07***	30
High	12	0,13***	31	0,84	19	0,24***	38	1,5*	41	3,4***	37	2,28***	34
Very high	3	0,08***	11	0,64	5	0,12***	12	1,1	20	3,74***	20	3,15***	15

Estimation Method: maximum likelihood estimation. Bootstrapping was used to determine statistical significance.

Significance level: \* for p < .05; \*\* for p < . 01; \*\*\* for p < .001.

tended to be less often employed as permanent workers with regular work schedules, and to have poorer prospects for career advancement, worse job matches, low procedural justice and low job latitude. They also reported a particularly low sense of accomplishment, of usefulness at work and of belonging to the organization. On the other hand, the “optimistic precarious” workers reported much lower social benefits yet did not report lower well-being. This result confirms recent findings that identify “optimistic precarious” job holders who are no different from workers in standard employment relationships on any of the indicators of well-being (Peckham et al., 2019). While this emerging literature suggests that these optimistic precarious workers may have other sources of health-protecting resources, our study shows that these workers have good reason to be “optimistic” since they are less exposed to irregular work schedules, lack of social support and procedural injustice, have better prospects for career advancement and jobs that match their skills and knowledge.

The last salient result pertains to the positive association between workers’ character traits and their well-being: workers with a weaker work ethic and resilience tended to be overrepresented in the three “less satisfied” and “more exposed” clusters. This confirms the positive association between well-being and work ethic and resilience. This positive association is often seen as reflecting social selection or mediation (i.e., the

process by which individuals with certain character traits are able to better select or shape their work environments through their higher work ethics; Furnham, 1984; Khan et al., 2015) or their higher resilience (Hartmann et al., 2020; Rees et al., 2015). Our results tend rather to suggest that hard work ethics and resilience are substantially reduced through distinct sensitization effects: overlapping exposure to precariousness, procedural injustice and poor prospects for career advancement reduces the hard work ethic, while overlapping exposure to hostile behaviour/ conflicts and competition reduces resilience. However, the identification of a non resilient “unhealthy stressed” cluster of workers was somewhat unexpected since these workers did not experience any harassment behaviours in their workplace. Their lower resilience could be imputed to their experience of higher levels of conflict and competition. However, they might also tend to be oversensitive to conflicts and competition due to pre-existing lower resilience or mental conditions.

One limitation of our study is that it is based on data from a cross-sectional design. The relationships revealed thus do not allow for claims concerning causality between character traits or mental conditions and class membership (De Witte et al., 2016). Future research should therefore propose a general typology of workers, based on longitudinal measures of psychological risks and well-being. This typology could be used to control

for pre-existing character traits or mental conditions or changing levels of well-being, work ethic and resilience over time due to exposure to psychosocial risks. The issue of causality also points to the need for future in-depth qualitative research based on life-story interviews. While a majority of studies have examined subjective data obtained from self-administered questionnaires, only a few studies have applied techniques such as observation or interviews (Häusser et al., 2010). Qualitative research might well reveal the mechanisms relating certain employment and working conditions to poor well-being.

Another limitation relates to the fact that the data were collected in a pre-COVID period. Psychosocial risks and well-being have become even more relevant in the context of the COVID-19 pandemic. Many people have experienced long-term unemployment in the personal services sector (such as retail, restaurant, and hospitality work), which precludes remote service delivery (Blustein et al., 2020). Certain workers have had to deal with the loss of childcare and with home-schooling requirements, both of which generate job uncertainty and anxiety, especially among working mothers (Petts et al., 2020). Even though essential workers have been at higher risk of contracting COVID-19, far too many of them have lacked adequate personal protective equipment (PPE), paid sick leave, and childcare services (Gaitens et al., 2021). Among essential workers, front-line health-

care workers have also had to deal with COVID-19 patients' feelings of distress, which has been identified as a significant psychosocial risk factor affecting these workers' mental health (Franklin & Gkiouleka, 2021; Zaka et al., 2020). Remote workers have been forced to face the difficulties that come with switching to remote working, especially the effect of a work overload and social isolation (Prado-Gascó et al., 2020). Further research is thus needed to investigate how macro-events such as the COVID-19 crisis impact the relationships between psychosocial risks and well-being within organizations.

### References

- Afonso, P., Fonseca, M., & Pires, J. F. (2017). Impact of working hours on sleep and mental health. *Occupational Medicine*, 67(5), 377-382.
- Akaike, H. (1998). Information theory and an extension of the maximum likelihood principle. In *Selected papers of Hirotugu Akaike* (pp. 199-213). Springer, New York, NY.
- Andersson, L. M., & Pearson, C. M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *Academy of Management Review*, 24, 452-471.
- Bakker, A. B., & Oerlemans, W. (2011). Subjective well-being in organizations. *The Oxford Handbook of Positive Organizational Scholarship*, 49, 178-189.
- Benach, J., Vives, A., Amable, M., Vanroelen, C., Tarafa, G., & Muntaner, C. (2014). Precarious employment: understanding an emerging social determinant of health. *Annual Review of Public Health*, 35, 229-253.
- Benavides, F. G., Benach, J., Diez-Roux, A. V., & Roman, C. (2000). How do types of employment relate to health indicators? Findings from the Second European Survey on Working Conditions. *Journal of Epidemiology & Community Health*, 54(7), 494-501.
- Bérenger, V., & Verdier-Chouchane, A. (2007). Multidimensional measures of well-being: Standard of living and quality of life across countries. *World Development*, 35(7), 1259-1276.
- Blau, G., & Ryan, J. (1997). On measuring work ethic: A neglected work commitment facet. *Journal of Vocational Behavior*, 51(3), 435-448.
- Blustein, D. L., Duffy, R., Ferreira, J. A., Cohen-Scali, V., Cinamon, R. G., & Allan, B. A. (2020). Unemployment in the time of COVID-19: A research agenda. *Journal of Vocational Behavior*, 119, Article 103436.
- Bosmans, K., Lewchuk, W., De Cuyper, N., Hardonk, S., Van Aerden, K., & Vanroelen, C. (2017). The experience of employment strain and activation among temporary agency workers in Canada. *Society, Health & Vulnerability*, 8(1), Article 1306914.
- Boxall, P., & Macky, K. (2014). High-involvement work processes, work intensification and employee well-being. *Work, Employment and Society*, 28(6), 963-984.
- De Dreu, C. K., Van Dierendonck, D., & Dijkstra, M. T. (2004). Conflict at work and individual well-being. *International Journal of Conflict Management*, 15(1), 6-26.
- Deitch, E. A., Barsky, A., Butz, R. M., Chan, S., Brief, A. P., & Bradley, J. C. (2003). Subtle yet significant: The existence and impact of everyday racial discrimination in the workplace. *Human Relations*, 56(11), 1299-1324.
- De Witte, H., Pienaar, J., & De Cuyper, N. (2016). Review of 30 years of longitudinal studies on the association between job insecurity and health and well-being: Is there causal evidence? *Australian Psychologist*, 51(1), 18-31.
- Einarsen, S. V., Hoel, H., Zapf, D., & Cooper, C. L. (Eds.). (2020). *Bullying and Harassment in the Workplace: Theory, Research and Practice*. CRC Press.
- Fletcher, T. D., Major, D. A., & Davis, D. D. (2008). The interactive relationship of competitive climate and trait competitiveness with workplace attitudes, stress, and performance. *Journal of Organizational Behavior*, 29(7), 899-922.
- Franklin, P., & Gkiouleka, A. (2021). A Scoping Review of Psychosocial Risks to Health

- Workers During the Covid-19 Pandemic. *International Journal of Environmental Research and Public Health*, 18(5), 2453.
- Furnham, A. (1984). The Protestant work ethic: A review of the psychological literature. *European Journal of Social Psychology*, 14(1), 87-104.
- Gaitens, J., Condon, M., Fernandes, E., & McDiarmid, M. (2021). Covid-19 and essential workers: A narrative review of health outcomes and moral injury. *International Journal of Environmental Research and Public Health*, 18(4), 1446.
- Gevaert, J., Van Aerden, K., De Moortel, D., & Vanroelen, C. (2020). Employment quality as a health determinant: Empirical evidence for the waged and self-employed. *Work and Occupations*, 48(2), 146-183.
- Goh, Z., Ilies, R., & Wilson, K. S. (2015). Supportive supervisors improve employees' daily lives: The role supervisors play in the impact of daily workload on life satisfaction via work-family conflict. *Journal of Vocational Behavior*, 89, 65-73.
- Hango, D., & Moyser, M. (2018). Harassment in Canadian workplaces. *Insights on Canadian Society*. December. Statistics Canada Catalogue no. 75-006-X.
- Hartmann, S., Weiss, M., Newman, A., & Hoegl, M. (2020). Resilience in the workplace: A multilevel review and synthesis. *Applied Psychology*, 69(3), 913-959.
- Häusser, J. A., Mojzisch, A., Niesel, M., & Schulz-Hardt, S. (2010). Ten years on: A review of recent research on the Job Demand-Control (-Support) model and psychological well-being. *Work & Stress*, 24(1), 1-35.
- Hershcovis, M. S., & Barling, J. (2010). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. *Journal of Organizational Behavior*, 31(1), 24-44.
- Huang, Y., Chua, T. C., Saw, R. P., & Young, C. J. (2018). Discrimination, bullying and harassment in surgery: a systematic review and meta-analysis. *World Journal of Surgery*, 42(12), 3867-3873.
- Inanc, H. (2020). Varieties of precarity: How insecure work manifests itself, affects well-being, and is shaped by social welfare institutions and labor market policies. *Work and Occupations*, 47(4), 504-511.
- Johnson, G. J., & Johnson, W. R. (1996). Perceived overqualification and psychological well-being. *The Journal of Social Psychology*, 136(4), 435-445.
- Kalliath, T., & Brough, P. (2008). Work-life balance: A review of the meaning of the balance construct. *Journal of Management & Organization*, 14(3), 323-327.
- Karasek R.A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), 285-308.
- Khan, K., Abbas, M., Gul, A., & Raja, U. (2015). Organizational justice and job outcomes: Moderating role of Islamic work ethic. *Journal of Business Ethics*, 126(2), 235-246.
- Knudsen, H., Busck, O., & Lind, J. (2011). Work environment quality: The role of workplace participation and democracy. *Work, Employment and Society*, 25(3), 379-396.
- Krieger, N. (2014). Discrimination and health inequities. *International Journal of Health Services*, 44(4), 643-710.
- Leon-Perez, J. M., Notelaers, G., Arenas, A., Munduate, L., & Medina, F. J. (2014). Identifying victims of workplace bullying by integrating traditional estimation approaches into a latent class cluster model. *Journal of Interpersonal Violence*, 29(7), 1155-1177.
- Lewchuk, W., De Wolff, A., King, A., & Polanyi, M. (2003). From job strain to employment strain: Health effects of precarious employment. *Just Labour*, 3(Fall): 23-35
- Leymann, H. & Gustafsson, A. (1996). Mobbing at Work and the Development of Post-Traumatic Stress Disorders. *European Journal of Work and Organizational Psychology*, 5(2), 251-275.
- Leymann, H. (1996). The content and development of mobbing at work. *European Journal*

- of Work and Organizational Psychology, 5(2), 165-184.
- Mackenbach, J. P., Stirbu, I., Roskam, A. J. R., Schaap, M. M., Menvielle, G., Leinsalu, M., & Kunst, A. E. (2008). Socioeconomic inequalities in health in 22 European countries. *New England Journal of Medicine*, 358(23), 2468-2481.
- Martens, M. F. J., Nijhuis, F. J., Van Boxtel, M. P., & Knottnerus, J. A. (1999). Flexible work schedules and mental and physical health. A study of a working population with non-traditional working hours. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 20(1), 35-46.
- Mayerl, H., Stolz, E., Waxenegger, A., & Freidl, W. (2017). Exploring differential health effects of work stress: a latent class cluster approach. *PeerJ*, 5, e3106.
- Mossey, J. M., & Shapiro, E. (1982). Self-rated health: a predictor of mortality among the elderly. *American Journal of Public Health*, 72(8), 800-808.
- Neault, R.A. (2002). Thriving in the New Millennium: Career Management in the Changing World of Work. *Canadian Journal of Career Development*, 1(1), 10-21.
- Notelaers, G., Einarsen, S., De Witte, H., & Vermunt, J. K. (2006). Measuring exposure to bullying at work: The validity and advantages of the latent class cluster approach. *Work & Stress*, 20(4), 289-302.
- Notelaers, G., Van der Heijden, B., Guenter, H., Nielsen, M. B., & Einarsen, S. V. (2018). Do interpersonal conflict, aggression and bullying at the workplace overlap? A latent class modeling approach. *Frontiers in Psychology*, 9, Article 1743.
- Pavalko, E. K., Mossakowski, K. N., et Hamilton, V. J. (2003). Does perceived discrimination affect health? Longitudinal relationships between work discrimination and women's physical and emotional health. *Journal of Health and Social Behavior*, 44(1), 18-33.
- Peckham, T., Fujishiro, K., Hajat, A., Flaherty, B. P., & Seixas, N. (2019). Evaluating employment quality as a determinant of health in a changing labor market. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 5(4), 258-281.
- Pettigrew, T. F., & Martin, J. (1987). Shaping the organizational context for Black American inclusion. *Journal of Social Issues*, 43(1), 41-78.
- Petts, R. J., Carlson, D. L., & Pepin, J. R. (2020). A Gendered Pandemic: Childcare, Homeschooling, and Parents' Employment During COVID-19. *Gender, Work & Organization*, 1-20.
- Prado-Gascó, V., Gómez-Domínguez, M. T., Soto-Rubio, A., Díaz-Rodríguez, L., & Navarro-Mateu, D. (2020). Stay at Home and Teach: A Comparative Study of Psychosocial Risks Between Spain and Mexico During the Pandemic. *Frontiers in Psychology*, 11, 2576.
- Rees, C. S., Breen, L. J., Cusack, L., & Hegney, D. (2015). Understanding individual resilience in the workplace: the international collaboration of workforce resilience model. *Frontiers in Psychology*, 6, 73.
- Rigó, M., Dragano, N., Wahren-dorf, M., Siegrist, J., & Lunau, T. (2020). Work stress on rise? Comparative analysis of trends in work stressors using the European working conditions survey. *International Archives of Occupational and Environmental Health*, 94(3), 1-15.
- Roberts, R. K., Swanson, N. G., & Murphy, L. R. (2004). Discrimination and occupational mental health. *Journal of Mental Health*, 13(2), 129-142.
- Sahai, S., Ciby, M. A., & Kahwaji, A. T. (2020). Workplace isolation: a systematic review and synthesis. *International Journal of Management*, 11(12), 2745-2758.
- Savage, M., Devine, F., Cunningham, N., Taylor, M., Li, Y., Hjellbrekke, J., Le Roux, B., Friedman, S. & Miles, A. (2013). A new model of social class? Findings from the BBC's Great British Class Survey experiment. *Sociology*, 47(2), 219-250.

- Schilpzand, P., De Pater, I. E., & Erez, A. (2016). Workplace incivility: A review of the literature and agenda for future research. *Journal of Organizational Behavior, 37*, S57-S88.
- Schmitt, M., & Dörfel, M. (1999). Procedural injustice at work, justice sensitivity, job satisfaction and psychosomatic well-being. *European Journal of Social Psychology, 29*(4), 443-453.
- Schwarz, G. (1978). Estimating the dimension of a model. *Annals of Statistics, 6*(2), 461-464.
- Sloan, M. (2012). Unfair treatment in the workplace and worker well-being: The role of coworker support in a service work environment. *Work and Occupations, 39*(1), 3-34.
- Song, Y., & Gao, J. (2020). Does telework stress employees out? A study on working at home and subjective well-being for wage/salary workers. *Journal of Happiness Studies, 21*(7), 2649-2668.
- Sparks, K., Cooper, C., Fried, Y. and Shirom, A. (1997). The effects of hours of work on health: a metaanalytic review. *Journal of Occupational & Organizational Psychology, 70*(4), 391-408.
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health—a meta-analytic review. *Scandinavian Journal of Work, Environment & Health, 32*(6), 443-462.
- Sullivan, C., & Lewis, S. (2001). Home-based telework, gender, and the synchronization of work and family: perspectives of teleworkers and their co-residents. *Gender, Work & Organization, 8*(2), 123-145.
- Sverke, M., Hellgren, J. and Näswall, K. (2002). No security: a meta-analysis and review of job insecurity and its consequences. *Journal of Occupational Health Psychology, 7*(3), 242-264.
- Tavares, A. I. (2017). Telework and health effects review. *International Journal of Healthcare, 3*(2), 30.
- Theorell, T., Hammarström, A., Aronsson, G., Bendz, L. T., Grape, T., Hogstedt, C., & Hall, C. (2015). A systematic review including meta-analysis of work environment and depressive symptoms. *BMC Public Health, 15*(1), 738.
- Van Aerden, K., Gadeyne, S., & Vanroelen, C. (2017). Is any job better than no job at all? Studying the relations between employment types, unemployment and subjective health in Belgium. *Archives of Public Health, 75*(1), 1-10.
- Van Aerden, K., Puig-Barrachina, V., Bosmans, K., & Vanroelen, C. (2016). How does employment quality relate to health and job satisfaction in Europe? A typological approach. *Social Science & Medicine, 158*, 132-140.
- Vanroelen, C., Louckx, F., Moors, G., & Levecque, K. (2010). The clustering of health-related occupational stressors among contemporary wage-earners. *European Journal of Work and Organizational Psychology, 19*(6), 654-674.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric. *Journal of nursing measurement, 1*(2), 165-178.
- Wang, M., & Hanges, P. J. (2011). Latent class procedures: Applications to organizational research. *Organizational Research Methods, 14*(1), 24-31.
- Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: how good are single-item measures? *Journal of applied Psychology, 82*(2), 247-252.
- Zaka, A., Shamloo, S. E., Fiorente, P., & Tafuri, A. (2020). COVID-19 pandemic as a watershed moment: A call for systematic psychological health care for frontline medical staff. *Journal of Health Psychology, 25*(7): 883-887.