

## Challenging (-Hindering) Employment and Employee Health

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### Article abstract

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# Challenging (-Hindering) Employment and Employee Health

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## Summary

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**Keywords:** employment; health; job quality; resources; stress; well-being; work design

## Résumé

La recherche a eu du mal à distinguer les emplois de bonne qualité des moins bons. En faisant la distinction entre les exigences professionnelles stimulantes et entravantes dans un contexte d'échange social, notre étude développe une heuristique généralisable pour la recherche sur la qualité de l'emploi. L'analyse des classes latentes avec modélisation des mélanges a été appliquée à un échantillon de 2 143 adultes issus de diverses professions. Un modèle à deux facteurs permet un soutien substantiel à la distinction entre les emplois demandants et les emplois entravants. L'emploi stimulant se caractérise par un travail dur et émotionnellement exigeant et par l'octroi de ressources plus importantes. Un emploi gênant implique plusieurs exigences entravantes et moins de ressources. Comme prévu, un emploi stimulant est associé à une meilleure santé générale et à une détresse psychologique moindre. Les associations positives entre un niveau d'éducation plus élevé et une expérience professionnelle plus longue et un emploi stimulant ont également soutenu l'heuristique stimulant/entravant.

**Mots-clés:** emploi; santé; qualité de l'emploi; ressources; stress; bien-être; conception du travail

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## 1. Introduction

Frederick W. Taylor broke jobs down into their component parts (Taylor, 1919), and scholars have since documented distinguishable work characteristics (Hackman & Lawler, 1971; Turner & Lawrence, 1965). Occupational health research has associated such characteristics with employee outcomes. As a result, role ambiguity, workload and autonomy are now among the most studied work characteristics related to employee burnout (Alarcon, 2011; Aronsson et al., 2017), depression (Rugulies et al., 2017) and well-being (De Jonge et al., 2001). What has coalesced from this tradition of scientific enquiry is a list of important work characteristics or conditions that are most often called job demands or resources (Bakker & Demerouti, 2007), with the former being increasingly viewed as either challenging or hindering (Cavanaugh et al., 2000; Crawford et al., 2010; LePine et al., 2005).

Although the approach taken so far has helped explain how specific work characteristics and conditions may impact employee well-being, it remains fragmented with little concern for the interdependencies between work characteristics in any given employment situation. Unpacking the components of work is most certainly necessary to specify the mechanisms leading to outcomes of interest, but this approach does not currently capture reality: individuals simultaneously experience a variety of interdependent work characteristics and conditions that together form an employment situation. Kalleberg and Vaisey (2005: 432) stated that “job characteristics come in bundles; they are configurations.” Developing a holistic and interactive view of work characteristics and conditions is therefore necessary to learn more about how work relates to employee well-being.

Another concern in current research is that the interactions of specific demands and resources in the prediction of employee outcomes have led to inconclusive findings (for reviews see De Jonge & Kompier, 1997; Häusser et al., 2010; Taris 2006). This is likely because employment is a complex phenomenon that cannot be fully captured through the study of simple two-way interactions between component parts, e.g., between psychological demands and job control (Karasek, 1979). We should therefore understand the whole employment situation as more or less challenging or hindering, rather than limiting the rich complexity of work situations to the interactions between a few of the many possible characteristics and conditions. Moreover, this fragmented approach takes research away from societal conversations about the integrated concepts of good and bad (*bullshit*) jobs (Graeber, 2018; see also Carré & Tilly, 2017; Crouch, 2019; Osterman & Shulman, 2011).

If we turn to job quality research, we see that the distinction between “good” and “bad” jobs remains unclear when we use work characteristics and conditions to define employment types. Holman observed that “there is little theoretical agreement on the types of high- and low-quality jobs” (2013: 479); not to mention the ideological divisions over the concept of decent work (Di Ruggerio et al., 2015). Several other investigators have noted that a precise definition of job quality is still lacking (Adamson & Roper, 2019; Barbier, 2008; Findlay et al., 2013; Hauff & Rastetter, 2021; Kelliher & Anderson, 2008). For example, the tendency is to view part-time schedules as characteristic of “bad” employment, even though closer scrutiny puts some part-time work in the “good” category (Haines et al., 2018; Tilly, 1996). Confusion is also apparent when nonstandard jobs are associated with bad employment even though some are not all that bad (Kalleberg et al., 2000). A high workload is considered to be characteristic of bad employment in some studies (Greenglass et al., 2001; Van der Meij et al., 2018) and a challenging job demand with positive implications in other studies (Cavanaugh et al., 2000; Crawford et al., 2010; LePine et al., 2005; Webster et al., 2011). Job satisfaction is at times viewed as an indicator of job quality (e.g., Holman, 2013; Kelliher & Anderson, 2008) and at times as an outcome of job quality (e.g., Dupre & Day, 2007; Zeytinoglu et

al., 2012).<sup>1</sup> A common template for integrated study of employment quality therefore remains elusive.

The aim of our study is to extend the theory-based concepts of challenging and hindering job demands in two directions: (1) by better characterizing the broader phenomenon of employment where a job has interdependent work characteristics and conditions; and (2) by validating this characterization in relation to employee health outcomes. Our main contribution will be to present specific demands and resources as part of a system of work characteristics and conditions. Complex interactions will be captured through latent class analysis (LCA) with mixture modelling—a statistical methodology that sorts data vectors into natural groups. This approach has provided insights into which work characteristics and conditions are responsible for employment types that qualify as either challenging or hindering. By associating these types with employee health and other variables of interest, we will show their relevance and validity.

By including close to thirty work characteristics and conditions in a single analysis, we will contribute to research on both employment quality and occupational health. Employment quality research is enriched by occupational health theory and the distinctions between demands and resources (Bakker & Demerouti, 2007) and between challenging and hindering demands (Cavanaugh et al., 2000; Crawford et al., 2010; LePine et al., 2005; Webster et al., 2011). Though lacking a clear theoretical basis (Holman, 2013), this novel approach to employment quality provides a theory-based heuristic for better determination of what people generally and intuitively consider to be good or bad employment. Our study will also inform stress and occupational health researchers who are still debating the distinction between challenging and hindering demands. At issue is determining under which circumstances job demands are challenging or hindering (Bakker & Sanz-Vergel, 2013). By identifying employment types in which challenging and hindering demands are most likely, additional insights will be gained. More generally, by associating the presence of some job demands with challenging employment and others with hindering employment within a web of other work characteristics and conditions, it will be possible to substantiate the challenging-hindering model at the employment level with supporting tests. Additionally, the relationships between employment types and health will be tested to establish construct validity and determine whether the challenging-hindering heuristic can usefully guide future employment quality and occupational health research.

## 2. Theoretical Framework

Our study is based on the theoretical distinctions between job demands and resources (Bakker & Demerouti, 2007) and between challenging and hindering job demands (Cavanaugh et al., 2000; Crawford et al., 2010; LePine et al., 2005) that flow from stress and occupational health research. We will thus help determine empirically whether these categories can be meaningfully extended to study of employment quality by considering the dynamics of social exchange. Before describing the challenging-hindering employment model more fully, we should first define work characteristics and conditions as either challenging or hindering and the logic of how they should combine with resources.

### 2.1 Challenging-Hindering Work Attributes

Work attributes are characteristics and conditions that include both demands and resources. Job demands are physical, psychological, social or organizational (Bakker & Demerouti, 2007: 312). If a job demand is a challenge, it is an obstacle to be overcome in order to learn and achieve. If it is a hindrance, it is unnecessarily thwarting personal growth and goal attainment (Crawford et al., 2010; LePine et al., 2005; Podsakoff et al., 2007). This distinction is based on transactional theories

of stress (e.g., Lazarus, 1966; Lazarus & Folkman, 1984) and rekindles the one made by Hans Selye between eustress and distress (1975). Although there remains some uncertainty about which specific demands are challenging or hindering (Bakker & Sanz-Vergel, 2013), a high workload would be challenging and job insecurity hindering.

The concept of human agency also helps define job demands as either challenging or hindering. As defined above, a challenge involves surmountable obstacles. The individual can prevail, and this possibility suggests that human agency is possible in the face of such demands. In contrast, a hindrance unnecessarily thwarts personal growth and goal attainment. To be thwarted is to be obstructed or frustrated; therefore, a hindrance is external to the individual and leaves little room for human agency. Although the role of human agency remains underdeveloped in current theorizing, it is nevertheless implied in the above definitions of challenge and hindrance.

Naturally, the likelihood of challenge in challenging employment should be high and that of hindrance in hindering employment should also be high. The probability of a heavy workload should be high in challenging employment. Conversely the probability of conflicting demands should be high in hindering employment (McLarty et al., 2021). The challenge-hindrance template thereby provides a framework for the study of challenging-hindering employment. An analysis of employment types, however, must also encompass resources that interact with other work attributes that together define employment quality.

Resources are valued for their intrinsic qualities or because they help one acquire or protect other valued resources (Hobfoll, 1989). To the extent that a work characteristic or condition favours personal growth and goal attainment, it should more often appear in challenging employment than in hindering employment. This prediction is upheld by social exchange theory (Blau, 1964; Homans, 1974). Accordingly, without at first making the distinction between their challenging or hindering nature, job demands should be positively associated with availability of organizational resources. Indeed, in a process of social exchange, the organization reciprocates by providing resources for efforts to meet job demands. Conversely, employees invest more in value-adding hard or emotionally demanding work in return for employer-provided resources. Such reciprocity has been shown for flexible work practices (Kelliher & Anderson, 2010), and it certainly extends to other resources.

The above prediction clearly applies to challenges that involve learning, achievement and associated gains, but not to hindrances that do not engage efforts to produce work achievements of value to the other party. For instance, an employee's effort in dealing with conflicting demands does not benefit the employer. In a process of social exchange that accounts for the distinction between challenging and hindering attributes of work, more resources are therefore expected in challenging employment and fewer in hindering employment.

## 2.2 Challenging-Hindering Employment

If the challenging-hindering model is viewed in an organizational setting of social exchange, we have a valuable heuristic for selecting and organizing indicators to conceptualize challenging-hindering employment. Using the above theoretical perspectives, we will define challenging employment as high in challenges and high in resources and hindering employment as high in hindrances and low in resources.

To set it apart conceptually from previous job quality research, we will compare this model to Holman's (2013) taxonomy of job types. Unlike his model, the challenging-hindering employment model does not consider contractual arrangements such as part-time work or a fixed or agency contract as intrinsic to employment quality.<sup>2</sup> Other components of his model, such as "work in a team" or "job satisfaction," are neither job demands nor resources and are therefore excluded from our analysis. With regards to aspects of wages and payment systems that are studied by

Homan, high wages are commensurate with high job quality (e.g., Lapointe & Bach, 2016), but group pay and performance payments cannot be convincingly construed as either job demands or resources. Moreover, it is often unclear in other job quality research whether an indicator is a challenge or a hindrance, and whether it is a job demand or an organizational resource. Attributes such as “boss has a boss” (Jencks et al., 1988), for instance, do not fit the proposed framework. Research on stress and occupational health thus puts our study on a singular trajectory; one with clear implications for the selection of work characteristics and conditions to be retained for the study of employment quality.

The above also illustrates that many demands and resources exist within the working environment and that not one study can realistically capture them all. Nonetheless, we examined several work characteristics and conditions in line with the general understanding that job quality is multifaceted and that better employment not only involves higher wages but also better job attributes (Bocuzzo & Gianecchini, 2015; Gallie, 2017; Green, 2006; Okay-Somerville & Scholarios, 2013) that have objective and subjective dimensions (Knox et al., 2014). In particular, when compared to hindering employment, challenging employment is more likely to have five challenges: hard work; fast work; physically demanding work; emotionally demanding work; and long work hours. Conversely, hindering employment is more likely to have six hindrances: nonstandard work schedules; conflicting demands; interruptions; harassment/violence; job insecurity; and difficult ambient conditions. We also examined the following organizational resources: skill utilization; autonomy; supervisor support; support from colleagues; pay level; disability insurance; private pension plan; recognition; and ten work-life balance policies.

### 2.3 Challenging/Hindering Employment and Health

Challenges and hindrances are both potentially stressful, but challenges may provide individuals with gains in growth and achievement. Accordingly, as Stiglbauer (2018) pointed out, challenges and hindrances both induce strain, but only hindrances preclude resource gains. Challenges and resources are both expected in challenging employment. The strain of such challenges would therefore be offset by gains in personal growth and achievement, in addition to gains through reciprocal social exchange. Conversely, hindering employment should include more hindrances and fewer personal or organizational resources. The strain of such hindrances would therefore not be offset by resource gains, and individuals in hindering employment would thus suffer the detrimental health consequences of high strain and low resources (Bakker & Demerouti, 2007; Karasek, 1979). There should thus be better health outcomes for individuals in challenging employment and worse health outcomes for those in hindering employment.

## 3. Methodology

### 3.1 Sample

In 2007-2008, a statistical agency in Quebec (Canada) conducted a survey of work conditions and occupational health and safety. The survey provided a representative sample of 5,071 employed respondents and covered a broad range of job attributes.

We removed those who were part-time workers (i.e., 27 hours or less a week), temporary agency contractors and seasonal workers because we wished to focus on standard employment, rather than on precarious or nonstandard employment (e.g., Barbier, 2008; Betti, 2018). For the same reason, we removed those who were under the age of 18, students or self-employed.<sup>3</sup> We also removed those who had been employed for less than one year in their current job to ensure that the final sample had respondents with sufficient knowledge of their work characteristics and conditions. To improve response accuracy, we removed those who were on vacation, on leave of



absence or reporting more than one job. The above selection criteria provided us with a final sample of 2,143 respondents. Their average age was 44.46 years ( $SD = 0.21$ ) and their average company tenure was 12.49 years ( $SD = 0.21$ ). The sample had slightly more men (54.78 %) than women.

### 3.2 Measures

The survey was administered in French, and many of the scale items were available in that language from previous research (e.g., Brisson et al., 1998). Unless otherwise specified, the possible answers ranged from 1 (*strongly disagree*) to 4 (*strongly agree*).

#### Hard Work

One item from the Job Content Questionnaire (JCQ; Karasek, 1979) measured psychological demands. It was worded: “My job requires working hard (mentally and physically).”

#### Fast Work

Another item, in relation to psychological demands, measured fast work. It was worded: “My job requires working very fast.”

#### Physically Demanding

Six items measured physically demanding work. For example, two of them were: “Work with hands above shoulders” and “Do precision work (for example, handle with fingertips to align a tool or minutely control movements).” The possible answers ranged from 1 (*never*) to 4 (*always*), and the internal consistency (alpha) of this scale was 0.81.

#### Emotionally Demanding

One item measured emotionally demanding work: “I find my work emotionally demanding.”

#### Work Hours

One item measured the average number of weekly hours worked. The answers ranged from 27.5 to 80 hours per week.

#### Nonstandard Schedules

Daytime work on a regular schedule qualified as a regular work schedule (0), and all other alternatives (e.g., rotating night shift) were coded as nonstandard schedules (1).

#### Conflicting Demands

One item measured conflicting demands. It stated: “I receive contradictory demands from others (superiors, colleagues, clients, etc.).”

#### Interruptions

One item measured work interruptions. The statement was: “I have to deal with many interruptions and disturbances while carrying out my tasks.”

#### Harassment/Violence

Three items measured whether the respondent had experienced psychological harassment, sexual harassment or physical violence over the preceding 12 months. An affirmative answer to any of those questions was followed by a question about the frequency of such occurrences. For each form of harassment or violence, the answers could range from 0 (*never*) to 4 (*very often*). The



values were summed for a final score on the harassment/violence variable that could range from 0 to 12.

### **Job Insecurity**

One item measured perceived job insecurity. It stated: “My job security is low.” Higher values reflected higher levels of job insecurity.

### **Difficult Ambient Conditions**

Four items measured difficult ambient conditions at work: “I experience vibrations from hand tools (vibrations in hands and arms)”; “I experience vibrations from big machines or from the ground (vibrations in my whole body)”; “I breathe solvent vapours like degreasers, oil, paint, varnish, glue, Varsol, turpentine etc. (from products that contain solvents)”; and “I work in such intense noise that it is difficult to hold a conversation from a few feet or one metre away even when shouting.” The frequency of exposure to such ambient conditions was reported on a scale ranging from 1 (*never*) to 4 (*all the time*). The internal consistency (alpha) of this scale was 0.71.

### **Skill Utilization**

Three items measured skill utilization: “My work requires that I keep learning new things”; “My work requires a high level of skill”; and “My work involves repetitious tasks” (reverse coded). These items had been used in previous research (e.g., Karasek 1979). The internal consistency (alpha) of this scale was 0.52.

### **Autonomy**

Autonomy was measured by two items like those that Morgeson and Humphrey (2006) had used to measure work method autonomy. The internal consistency (alpha) of this two-item scale was 0.62.

### **Supervisor Support**

Three items measured supervisor support: “My supervisor pays attention to what I have to say”; “My supervisor facilitates getting work done”; and “My supervisor has a hostile or conflictual attitude towards me” (reverse coded). These items are like those used to assess supervisor support in previous research (e.g., Eisenberger et al., 2002). The internal consistency (alpha) of this scale was 0.77.

### **Colleague Support**

Three items measured support from colleagues: “My colleagues facilitate getting work done”; “At my workplace I feel like I belong to a team”; and “My colleagues have a hostile or conflictual attitude towards me” (reverse coded). The internal consistency (alpha) of this scale was 0.64.

### **Pay Level**

Respondents reported their pay level in one of 11 pay grades ranging from 1 (*less than 5,000*) to 11 (*more than 100,000*). The values were in Canadian dollars and included overtime pay. Because of our sample selection criteria, the first two categories were left empty so that the effective range included nine pay grades.

### **Disability Insurance**

Respondents reported whether they had access to disability insurance in their current employment. Those who had access were coded as 1. Those who did not were coded as 0.

### **Pension Plan**

Respondents reported whether they had access to a pension plan in their current employment. Those who had access were coded as 1. Those who did not were coded as 0.

### **Recognition**

Two items measured recognition. They were like those used to capture the esteem dimension of the effort-reward imbalance model (Siegrist et al., 2004). The internal consistency (alpha) of this two-item scale was 0.76.

### **Work-Life Balance Policies**

Respondents reported the availability of ten work-life balance policies. They indicated whether they had access to each of them in their workplace. Those who had access were coded as 1. Those who did not or who did not know whether they had access to each of the work-life balance policies were coded as 0. Although the policies all related to work-life balance, they each were different in nature and treated as separate indicator variables.

### **General Health**

One item measured the respondent's general health as *poor* (1), *adequate* (2), *good* (3), *very good* (4) or *excellent* (5). This item was about the physical component of general health (Ware, 2000).

### **Psychological Distress**

The six-item Kessler Psychological Distress Scale (K6; Kessler et al., 2002) measured the respondent's degree of psychological distress on a scale ranging from 0 (*never*) to 4 (*always*). A sample item: "Over the last month at what frequency have you felt nervous?" The internal consistency of this scale was 0.76.

### **Depressive Symptoms**

The respondent was asked about two depressive symptoms from the *Diagnostic and Statistical Manual of Mental Disorders* (5<sup>th</sup> ed., *DSM-5*, American Psychiatric Association, 2013). The answers were summed, thus generating scores ranging from 0 to 2.

### **Age**

Age was recorded in years.

### **Gender**

Gender was coded as female (0) or as male (1).

### **Education Level**

Education was measured by four categories: *elementary school* (1); *high school* (2); *college* (3); and *university* (4).

### **Experience**

Experience in the respondent's current position was measured in years. All the respondents had at least one year of experience in their current job. The values were thus all 1 or above.

### **Unionized**

One item measured whether the respondent was covered (1) or not covered (0) by a collective agreement or by a union-negotiated contract.

### **Analysis**

LCA was used to identify unobserved groups within the sample. A basic aim of this statistical approach is to uncover unobserved heterogeneity in a population and to find substantively meaningful groups of people who are similar in their responses (Nylund et al., 2007). In our study, Mplus 8.5 was used with multiple categorical and continuous indicator variables, as is possible with LCA. The number of classes was determined by means of multiple information criteria and the Likelihood Ratio Test (LRT). Once the classes had been identified, multinomial logistic regression was used to estimate the degree to which age, gender, education level, experience in current position and being unionized affected the probability of being in one type or another of employment. Finally, probit regression was used, with gender and age as covariates, to estimate the associations between employment type and perceived general health, psychological distress and depressive symptoms.

## 4. Results

### 4.1 Latent Class Analysis

Models with two to six classes were run to determine the optimal number of classes. Ultimately, the two-class solution was favoured, for empirical and theoretical reasons. First, as we increased the number of classes, the information criteria scores decreased marginally. More classes did not produce a better fit to the model. The scores were based on Akaike's Information Criterion (AIC), Bayesian Information Criterion (BIC) and Sample-Size Adjusted Bayesian Information Criterion (SSA-BIC). The downward slope from the two-class to six-class model was constant, and not precipitous, from one model to the next.

The LRT compares a model with another that has one less class. An additional class improves the model fit if the LRT coefficient is statistically significant. We found that the LRT coefficient ceased to be significant beyond two classes. Compared with the one-class model, the LRT coefficient (3,500) was significant ( $p = 0.000$ ) for the two-class model. For the three-class model (2,118), it was not significant ( $p = 0.778$ ); nor was it for the four- (1,135;  $p = 0.823$ ), five- (807;  $p = 0.763$ ) and six-class (718;  $p = 0.191$ ) models. Thus, the information criteria slopes and the LRT coefficients both pointed to the two-class model as the best fit.

Second, the two-class model agreed with substantive theory. Given that theoretical agreement can inform decision-making on the number of classes (Nylund et al., 2007), we should point out the consistency of the two-class model with theorizing on occupational health and social exchange. The two-class model therefore had empirical and theoretical support. Moreover, the entropy coefficient (0.777) of the two-class model indicated a clear delineation of classes with adequate classification accuracy (Wang et al., 2017).

### 4.2 Two-Class Model

Table 1 presents the descriptive statistics and correlations for all study variables. Conditional probabilities for categorical indicator variables and means for latent indicator variables are reported in Table 2. As predicted, hard work and emotionally demanding work were reported as being higher in challenging employment than in hindering employment. Physically demanding work was, however, higher in hindering employment. Because physically demanding work was highly correlated with difficult ambient conditions ( $r = 0.525$ ;  $p < .05$ ), it probably took place in conditions that involved noise, solvents, vibrations and other aspects of difficult work contexts. Fast work and work hours were not significantly correlated with either challenging or hindering employment.

Table 1

**Descriptive Statistics and Correlations for Study Variables**

**Table 1: Descriptive Statistics and Correlations for Study Variables**

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32					
1. Hard work	291	.73																																					
2. Past work	276	.78	.38																																				
3. Physically demanding	198	.63	.09	.07																																			
4. Emotionally demanding	262	.83	.27	.25	.02																																		
5. Workhours	39.00	6.02	.12	.07	.04	.05																																	
6. Nonstandard schedules	24	.43	-.04	.01	.20	.02	.12																																
7. Conflicting demands	222	.72	.15	.14	.08	.22	.05	.01																															
8. Interruptions	273	.87	.22	.18	-.07	.28	.03	-.11	.26																														
9. Harassment/Violence	44	1.09	.34	.07	.34	.24	-.04	.05	.17	.15																													
10. Job insecurity	192	.77	-.01	.06	.21	.02	.05	.08	.12	-.01	.08																												
11. Ambient conditions	140	.50	.02	-.01	.32	-.04	.13	.16	.08	-.06	.09	.19																											
12. Pay level	627	1.84	.17	.02	-.29	.12	.33	-.07	.01	.09	-.07	-.21	-.07																										
13. Disability insurance	85	3.6	.08	.02	-.09	.05	.02	-.03	.02	.07	.00	-.14	-.02	.34																									
14. Pension plan	62	.48	.05	-.00	-.09	.03	-.03	-.01	-.02	.04	-.01	-.17	-.02	.36	.45																								
15. Recognition	306	.57	-.08	-.03	-.12	-.16	.02	-.07	-.28	-.11	-.29	-.22	-.11	.05	-.02	-.01																							
16. Flextime	45	.50	-.04	-.06	-.22	-.05	-.01	-.08	-.09	.02	-.06	-.12	-.18	.14	-.02	-.01	.15																						
17. Time banking	50	.50	-.07	-.06	-.03	-.07	-.11	.03	-.01	.03	-.04	-.07	.02	-.00	.07	.06	.06	.19																					
18. Family leave	61	.49	.00	-.02	-.12	-.01	.02	-.05	-.02	.02	-.01	-.18	-.11	.12	.20	.20	.08	.09	.08																				
19. Sick leave	75	.43	.04	.01	-.26	.09	-.08	-.10	.03	.11	.03	-.23	-.26	.24	.36	.32	.02	.10	.11	.32																			
20. Reduced work	39	.49	-.00	-.04	-.05	.03	-.16	-.07	-.06	.01	.03	-.14	-.15	-.03	.01	.03	.09	.25	.07	.17	.14																		
21. Work from home	20	.40	.12	.03	-.26	.05	.14	-.08	-.01	.06	-.06	-.20	.32	.06	.03	.12	.33	.04	.11	.11	.14																		
22. Gradual return	59	.49	.04	-.03	-.04	-.04	-.05	-.01	-.05	.01	.01	-.13	-.13	.04	.09	.07	.09	.16	.09	.16	.15	.25	.12																
23. Urgent/deferred care	64	.43	.03	-.04	-.07	.08	-.11	.01	.01	.05	.07	-.20	-.12	.14	.19	.24	.02	.10	.11	.20	.25	.27	.07	.31															
24. Daycare	11	.30	.05	-.00	-.06	.05	-.06	-.05	.02	.05	.02	-.10	-.08	.09	.10	.16	.05	.10	.05	.07	.12	.10	.06	.09	.14														
25. Time drops	37	.48	-.08	-.08	.09	-.04	-.05	.28	-.05	-.07	.02	.05	.01	-.18	-.08	-.07	.05	.11	.06	-.00	-.05	.12	-.08	.09	.05	.01													
26. Health	386	.90	-.05	-.03	-.15	-.10	-.03	-.05	-.13	-.04	-.07	-.13	-.13	.08	.03	.05	.19	.10	.04	.04	.06	.04	.06	.05	.02	.03	-.01												
27. Psychological distress	59	.54	.19	.20	.13	.29	-.00	.04	.19	.19	.22	.10	.05	-.09	-.02	-.03	-.27	-.25	-.03	-.04	-.01	-.04	-.04	-.04	.00	.02	-.05	-.25											
28. Depressive symptoms	32	.67	.11	.08	.10	.17	-.02	.02	.13	.12	.19	.06	.04	-.04	-.01	.01	-.19	-.05	-.02	-.00	.02	-.03	-.04	-.02	.03	.02	-.00	-.18	.46										

Table 2

**Conditional Probabilities and Means for the Two-Class Model**

Latent class		Class 1 Hindering	Class 2 Challenging
N		1,002	1,141
Sample %		47%	53%
<b>Variables</b>			
Hard work			
Mean		2.819	<b>2.983</b>
Fast work			
Mean		2.771	2.760
Physically demanding			
Mean		<b>2.250</b>	1.622
Emotionally demanding			
Mean		2.564	<b>2.663</b>
Work Hours			
Mean		39.741	39.483
Nonstandard schedules			
No	0	0.663	0.842
Yes	1	<b>0.337</b>	0.158
Conflicting demands			
Mean		<b>2.348</b>	2.112
Interruptions			
Mean		2.646	<b>2.800</b>
Harrassment/violence			
Mean		<b>0.587</b>	0.309
Job insecurity			
Mean		<b>2.250</b>	1.619
Ambient conditions			
Mean		<b>1.493</b>	1.147
Skill utilization			
Mean		2.761	<b>3.226</b>
Autonomy			
Mean		2.738	<b>3.195</b>
Supervisor support			
Mean		2.887	<b>3.360</b>
Colleague support			
Mean		2.955	<b>3.376</b>
Pay level <sup>a</sup>			
Level 3	1	<b>0.022</b>	0.002
Level 4	2	<b>0.062</b>	0.002
Level 5	3	<b>0.235</b>	0.046
Level 6	4	<b>0.269</b>	0.168
Level 7	5	0.154	<b>0.183</b>
Level 8	6	0.112	<b>0.167</b>
Level 9	7	0.119	<b>0.243</b>
Level 10	8	0.019	<b>0.105</b>
Level 11	9	0.008	<b>0.084</b>
Disability insurance			
No	0	0.253	0.064
Yes	1	0.747	<b>0.936</b>
Pension plan			
No	0	0.526	0.244
Yes	1	0.474	<b>0.756</b>
Recognition			
Mean		2.843	<b>3.259</b>
Flextime			
No	0	0.720	0.408
Yes	1	0.280	<b>0.592</b>
Time banking			
No	0	0.574	0.439
Yes	1	0.426	<b>0.561</b>
Family leave			
No	0	0.533	0.258
Yes	1	0.467	<b>0.742</b>
Sick leave			
No	0	0.436	0.088
Yes	1	0.564	<b>0.912</b>
Reduced week			
No	0	0.730	0.507
Yes	1	0.270	<b>0.493</b>
Work from home			
No	0	0.951	0.663
Yes	1	0.049	<b>0.337</b>
Gradual return			
No	0	0.527	0.301
Yes	1	0.473	<b>0.699</b>
Unpaid/deferred leave			
No	0	0.497	0.230
Yes	1	0.503	<b>0.770</b>
Daycare			
No	0	0.956	0.847
Yes	1	0.044	<b>0.153</b>
Time swaps			
No	0	0.588	0.660
Yes	1	<b>0.412</b>	0.340

Note. A mean or probability in bold is significantly higher ( $p < .05$ ) than the other mean or probability. Statistical significance was determined by the latent class odds ratio for each categorical variable and a two-tailed t-test for each continuous variable.

In keeping with the original theoretical distinction, the probabilities and means indicated that nonstandard work schedules, conflicting demands, harassment/violence, job insecurity and difficult ambient conditions were greater in hindering employment than in challenging employment. Only one result failed to fit the original heuristic: interruptions were more prevalent in challenging employment than in hindering employment. We will address this exception in the discussion.

The results also supported the general prediction that more resources would be available in challenging employment and fewer resources in hindering employment. Skill utilization, autonomy, supervisor support, colleague support and pay were higher in challenging employment than in hindering employment. Challenging employment also provided employees with higher probabilities of access to disability insurance, a pension plan and nine work-life balance policies. It also reportedly provided employees with greater recognition. Hindering employment had only a higher probability of access to time swaps.

There were large differences in probabilities between types of employment. Challenging employment was four times more likely than hindering employment to provide a workplace day-care centre, and five times more likely to provide a work-from-home option.

### 4.3 Patterns of Association

Table 3 presents the logistic regression results for the probability of having challenging employment, with hindering employment as the reference category. The strongest associations were between, on the one hand, education level and experience in current position and, on the other, the probability of having challenging employment. Employees were more likely to have challenging employment if they had higher education levels or longer experience in their current position. Men were somewhat more likely than women to have challenging employment. Age or being unionized were not significantly associated with challenging employment.

Table 3

**Probability of Having Challenging Employment**

	Estimate	SE	Est./SE	p
Age	0.000	0.008	0.038	.970
Gender	-0.354	0.158	-2.244	.025
Education level	1.505	0.093	16.261	.000
Experience	0.045	0.009	4.996	.000
Unionized	-0.277	0.206	-1.348	.178
Intercepts	-4.304	0.481	-8.945	.000

Note. Hindering employment (Class 1) is the reference category.

**4.4 Employment Quality and Health Outcomes**

Table 4 presents the associations between general health, psychological distress and depressive symptoms and the probability of having challenging employment with controls for gender and age. The logistic regression shows that challenging employment was positively associated with general health and negatively associated with psychological distress. There was no significant association between challenging employment and depressive symptoms.



Table 4

**Health Outcomes by Age, Gender and Challenging Employment**

	Association	SE	Est./SE	p
<b>General health</b>				
Age	-0.008	0.002	-4.145	.000
Gender	-0.065	0.039	-1.671	.095
Challenging	0.494	0.060	8.249	.000
<b>Psychological distress</b>				
Age	-0.004	0.001	-3.335	.001
Gender	-0.162	0.023	-6.961	.000
Challenging	-0.413	0.131	-3.146	.002
<b>Depressive symptoms</b>				
Age	-0.002	0.001	-1.680	.093
Gender	-0.189	0.029	-6.462	.000
Challenging	-0.026	0.086	-0.300	.765
Intercepts	-1.523	0.266	-5.720	.000

Note. Hindering employment (Class 1) is the reference category.

## 5. Discussion

Analysis of close to 30 work characteristics and conditions reveals that the employment experience falls into two meaningful subgroups: challenging employment and hindering employment. Challenging employment is positively associated with self-reported general health and negatively associated with self-reported psychological distress, in keeping with theorizing on occupational health and social exchange. The findings recollect a claim made by Hans Selye to the effect that “stress is associated with every kind of work, but distress is not” (1974: 87). Stress, it would appear, is associated with challenging employment but distress is not, whereas hindering employment involves both stress and distress.

With little theoretical guidance available in job quality research (Holman, 2013) and the possibility of countless configurations of working realities, our findings offer a pathway for future research. They highlight the interplay of challenges and hindrances in an employment system that involves social exchange. They further show that higher education level and greater work experience are associated with a higher probability of having challenging employment rather than hindering employment.

Our findings strongly support the prediction that challenging employment is high in challenges and high in resources and that hindering employment is high in hindrances and low in resources. Moreover, our approach answers the call for a robust conceptualization of job/employment quality (Findlay et al., 2013; Muñoz de Bustillo et al., 2011), without discarding the key extrinsic and intrinsic indicators of this multifaceted concept (Bocuzzo & Gianecchini, 2015; Gallie, 2017).

## 5.1 Research Implications

Employment situations vary in their contractual physical, psychological, economic and social attributes. We have provided fresh insights into how these attributes fit within interpretable and empirically validated patterns that reveal two employment types. In this model-based approach, the concepts of challenging and hindering job demands were helpful in making a clear distinction between challenging and hindering employment. The social exchange perspective informed the supported prediction that more resources would accrue in challenging employment than in hindering employment. This integration of occupational health and social exchange theory contributes to a fundamental shift away from the current normative views of employment quality.

Consistent with human capital theory (Becker, 1964) and the contention that investments in education have positive consequences, the probability of having challenging employment increases as one's level of education increases. It also increases with increasing experience in one's current position, as expected from a finding in turnover research that better work attributes increase employee retention (Griffeth et al., 2000). Future research might address this association more directly. Women are somewhat more likely to have challenging employment, but this finding is contrary to evidence that women are more likely to be in jobs of lesser quality (e.g., Stier & Yaish, 2014). Although more research is needed to clarify this association, the nomological network of associations uncovered by our study supports the validity of the challenging-hindering employment model.

The positive association between challenging employment and better self-reported general health is consistent with previous research (Stiglbauer, 2018). In essence, there are two possible explanations why challenging employment might lead to better health outcomes. The first one is that job challenges lead to personal growth and achievement. The second one, set in the context of social exchange, is that the employer will provide more resources to employees who rise to the challenges of employment. Future research should address the relative worth of the two explanations.

Although more research is needed to justify classifying some job demands as either challenging or hindering at the task level (Cavanaugh et al., 2000; Crawford et al., 2010; LePine et al., 2005), our findings support the challenging-hindering classification at the employment level. Clearly, challenging employment is characterized by hard and emotionally demanding work and hindering employment by nonstandard schedules, conflicting demands, harassment/violence, job insecurity and difficult ambient conditions.

In past studies, indicators of job quality were used to predict employee motivation (e.g., Hackman & Oldham, 1975), job satisfaction (e.g., Morgeson & Humphrey, 2006) and innovative behaviour (Gallie, 2018) or to rank jobs by success in the labour market (Jencks et al., 1988). Our study used stress and occupational health theory in a context of social exchange to select the key indicators of employment quality. This heuristic does not discount other outcomes of interest, but it does emphasize employee well-being and health as significant markers of the employment experience. We emphasized employment quality rather than job quality because "employment" best conveys the relational nature of work in hierarchical organizations.

That heuristic can be used to measure employment quality in population-based studies with a shorter list of work attributes. Based on our findings, we would use hard and emotionally demanding work as the most obvious indicator. To represent hindrances, we would use conflicting job demands and job insecurity, although nonstandard schedules and difficult ambient conditions would be good indicators on a shorter scale. Harassment/violence could also be used, although they are relatively infrequent. We would also recommend that a shorter scale include four resource-related indicators: possibly two work characteristics (e.g., skill utilization and autonomy) and two work conditions (e.g., pay level and family leave).

The challenging-hindering heuristic offers a stable framework for study of employment quality over time. Employment quality is especially useful for study of fast-changing occupations. A challenging occupation may become hindering over time or even more challenging. Such a change would be captured by the challenging-hindering heuristic, but not by a general survey of occupations or professions.

## 5.2 Practical Implications

Our study, and its findings, may assist policy and societal conversations about employment quality. Instead of viewing employment quality as a haphazard assemblage of attributes, we favour a unified view that makes employee health and well-being a central concern. Given the dispersed nature of job quality research (Holman, 2013), such a view may be the best means to bring together societal conversations about employment quality.

Policy may be guided by a better understanding of the attributes and social dynamics of employment. First, policymakers may consider examining job demands and job resources together to describe employment adequately. They may also benefit from understanding of the challenge-hindrance distinction and the positive association between education level and the likelihood of having challenging employment.

Another practical implication lies in the realization that healthy employment provides more challenges and resources. Employers should therefore first assess the job demands of their workforce while making the important distinction between challenges and hindrances. They should then design interventions that decrease hindrances while allowing challenges and providing commensurate resources. This framework could also be used to assess how technological change might affect the employment experience.

For employees, our study has two additional practical implications. First, they should take stock of the systemic aspects of their employment situation rather than focus on just one aspect. They may then develop better strategies for coping with the system and not only with its components. Second, they should increase their education level to increase their likelihood of getting challenging employment.

## 5.3 Limitations

Because employment is embedded within an institutional context (Muñoz de Bustillo et al., 2011), the two employment types we have identified may not be generalizable to dissimilar contexts. The challenging-hindering employment model should therefore be tested in other countries. Another limitation is the low internal consistency (i.e., reliability) of some of the scales. Three of the work attributes had reliability coefficients below the standard threshold. This is not problematic for autonomy and colleague support, since reliability tends to increase as the number of scale items increases. We are therefore left with skill utilization, whose coefficient might be deemed too low. If so, this would reduce the strength of the association with challenging employment. A related issue is that several of the variables were assessed with single-item scales.

The list of work characteristics and conditions that could be included in analysis of employment quality is limitless, and our study did not include several other work attributes. The ones we did use, however, more than adequately covered the job challenges and hindrances, as well as the resources. This list also fares very well in comparison with analytical frameworks based on very few indicators of employment quality (e.g., Green, 2006; Kalleberg et al., 2000; Kauhanen & Nätti, 2015; Voßemer, 2019). The challenging-hindering framework nonetheless provides a clear heuristic for selecting and sorting other work attributes for study of employment quality over time.

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## Notes

[1] Our study follows the prevailing view that environmental factors (e.g., work characteristics and conditions) determine subjective well-being (e.g., job satisfaction) (Warr, 2007).

[2] Such contractual arrangements are causally but not constitutively related to employment quality. If, for instance, temporary contracts are associated with lower job autonomy (Kauhanen & Nätti, 2015) and if job autonomy is an indicator of employment quality (Chen & Mehdi, 2018; Green, 2006), then such contracts are upstream from employment quality and cannot therefore be indicators of the concept they predict.

[3] Whether or not nonstandard employment is problematic depends on the quality of nonstandard jobs (Kalleberg et al., 2000; Kauhanen & Nätti, 2015). A clear distinction should be made between the form of employment (standard vs nonstandard) and the concept of employment quality. For this study, we take the view that part-time, temporary, agency and seasonal work are forms of employment and do not imply low employment quality.

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