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Job-Related Resources and the Pressures of Working Life

Introduction

Are job-related resources associated with more or less job pressure? One view is that people with better pay and greater job control or more resources *should* enjoy an easier life—one filled with more personal and social rewards. In accordance with the Stress Process Model, many scholars in the sociological study of stress have articulated the ways that status inequality contributes to disparities in well-being (McLeod & Nonnemaker, 1999; Mirowsky & Ross, 2003; Pearlin, 1999). A lower level of exposure to stressors among individuals with higher status is offered as one explanation for these patterns. At the same time, however, there is increasing attention to the ‘downsides’ of higher status that go against the grain of these more favorable predictions, especially in the workplace context. An emerging theoretical perspective—the *stress of higher status*—has been advanced in an effort to elaborate on these processes and their implications for personal and role functioning (Schieman, Kurashina, & Van Gundy, 2006; Schieman & Glavin 2008, 2011; Schieman, Milkie, and Glavin, 2009). One of its main predictions is that individuals in higher status positions in the workplace—as experienced in the nature of activities, expectations, and responsibilities—are *exposed* to more job demands. While this seems plausible, little is known about the interrelationships among specific features of job resources and demands (e.g., job pressure) that are central for stress of higher status processes.

In an effort to further develop and test components of the stress of higher status thesis, I draw upon ideas from the Job Demands-Control model (Karasek, 1979) and its more recent iteration—the Job Demands-Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Both models are heuristic frameworks for describing the effects of job conditions on personal, social, and organizational outcomes. In the JD-R model, scholars have

identified the centrality of two characteristics of work across all types of occupations: *demands* and *resources* (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004). Demands are “structural or psychological claims associated with role requirements, expectations, and norms to which individuals must respond or adapt by exerting physical or mental effort” (Voydanoff, 2005:491). In research on work and stress, *job pressure* represents a quintessential demand (Diestel & Schmidt, 2009; Kristensen et al., 2004; Tausig & Fenwick, 2011). By contrast, job resources are physical, psychosocial, or organizational aspects of work that should help workers manage job pressure (Demerouti & Bakker, 2011). This view of “resources” in the JD-R model originates, in part, from the JD-C model’s concept of *job control*—that is, the “working individual’s potential control over his tasks and his conduct during the working day” (Karasek, 1979:289). Job resources involve the nature of, and rewards from, the work itself (e.g., autonomy, schedule control, authority, and challenge)—although, as I will elaborate on in detail below, the conceptual connections between job control and resources may be much more evident among some work characteristics compared to others.

In this study, I position the earlier conceptualization of “job control” alongside the more recent characterization of “job resources” and investigate the following puzzle: What if some forms of job resources are associated with *greater exposure* to job pressure? These observations would elaborate upon the core ideas and predictions of the JD-R model and encourage greater conceptual reflection about the job conditions that have typically been referred to as “resources.” To address these questions, I analyze data from a nationally representative survey that includes workers from a broad spectrum of job sectors, occupations, social statuses, and job conditions: the 2011 *Canadian Work, Stress, and Health* study (CAN-WSH).

1.1. The Conceptualization and Importance of Job Pressure

As part of Karasek's (1979) classic JD-C model, early conceptualizations of job demands focused on requirements for fast-paced performance, the intensity of effort, and time constraints (Karasek, 1985; Karasek & Theorell, 1990), including items like "my job requires working very fast," "my job requires working very hard," and "I have enough time to get the job done" (the latter being reverse-coded). These indicators directly implicate the stress associated with the divergence between the quantity of work and the time allotted for it. While debates about the conceptualization and measurement of job demands persist, a basic theme involves the amount of work to be done and the subjective sense of the associated pressure (Diestel & Schmidt, 2009). Some research has expanded the concept of "quantitative demands at work" with a more specific focus on time pressure (Duxbury, Lyons, & Higgins, 2008; Kristensen et al., 2004; Tausig & Fenwick, 2011). In such high-pressure contexts, workers report feeling an imbalance between the amount of work required and the time that they have to complete it.

The conceptualization of job pressure fits the JD-R model's characterization of demands as features of the work role that generate strain—especially if they "exceed the employee's adaptive capability" (Bakker et al., 2007). As operationalized in the present study, workers who report high levels of job pressure experience being overwhelmed by the amount of work they have to do; they have to work on too many tasks at the same time; the demands of their job exceed the time they have to do the work. Research consistently demonstrates that job pressure increases time and energy commitments and is associated with exhaustion, burnout, and distress (Demerouti et al., 2001; Hakanen, Schaufeli, & Ahola, 2008; Kristensen et al., 2004; Schieman & Glavin, 2011).¹ In the 1997 NSCW, for example, Voydanoff (2005) observes that job pressure

¹ Bakker and colleagues (2007:275) assert: "Although job demands are not necessarily negative, they may turn into job stressors when meeting those demands requires high effort from which the employee does not adequately

is associated with more work-to-family conflict—a key stressor that is associated with greater distress (Bellavia & Frone, 2005; Glavin, Schieman, & Reid, 2011). Similarly, in analyses of the 2002 NSCW, Schieman and Glavin (2011) link job pressure with elevated levels of distress.

Given the well-established empirical connection between job pressure and negative outcomes, my study focuses specific attention on the job conditions that influence levels of pressure—especially its distribution across occupational groups and income levels, as well as its association with job resources. Different types of jobs—with their varying requirements and expectations, probably generate different amounts of pressure. In this context, I therefore seek to answer a key question that remains unaddressed in the literature: Are the so-called “resource” attributes of these jobs associated with more or less exposure to job pressure?

1.2. The Link between Job Resources and Job Pressure

In the JD-R model, job demands are clearly identified as potentially problematic for workers, especially in the “health impairment process” (Demerouti & Bakker, 2011). However, the JD-R model also proposes that job resources should help workers manage the demands of work (Bakker & Geurts, 2004; Demerouti et al., 2001). A fundamental tenet predicts both a *negative direct association* and an *interaction effect* between job resources and demands. For example, Bakker & Demerouti (2007) assert: “Job resources reduce job demands and the

recover...” In my view, this claim is problematic because it suggests that job pressure is not an actual ‘stressor’ unless a worker is required to exert effort and then fails to ‘recover.’ Moreover, Bakker and colleagues’ definition embeds the outcome variable (“failure to recover”) with the predictor variable (“demands”). I argue that being *overwhelmed* by work, having *too many* tasks, or facing demands that *exceed* time allowances are unambiguously representative of a stressor. On balance, job pressures like these do require “high effort” and are typically negative. Whether or not (a) the worker “recovers” from the high degree of effort or (b) subsequently experiences negative outcomes like greater psychological distress or poor health outcomes are two separate empirical questions.

associated physiological and psychological costs ” (p. 312).² Testing the first part of this basic proposition, I propose the *resource hypothesis*: If job resources actually “reduce” job demands, then my analyses should demonstrate that each resource is associated with less job pressure. By contrast, an alternative hypothesis—the *stress of higher status*—predicts a starkly different scenario: Job resources may be associated with higher levels of job pressure. Which view is more accurate—and does the answer depend on the particular job resource being considered?

The resource hypothesis is rooted in the concept of job control (Karasek, 1979). A core assumption of the JD-C model and the more contemporary JD-R model is that high job demands are problematic, especially in conjunction with low job control or resources (van der Doef & Maes, 1999). However, few researchers have adequately articulated another possibility: Some job-related resources might be associated with more demands. The lack of theoretical and empirical attention given to this prospect, in my view, is partly due to the ways that the developers of the JD-C model positioned demands and control vis-à-vis each other. For instance, Karasek and colleagues (1998) explicitly articulated the association between job control and job demands in starkly *statistical* terms—focusing on “collinearity” as a central problem in the analyses of multiplicative or interaction effects:

“The correlation between psychological demands and decision latitude is an important issue for testing the demand/control model. A positive correlation can indicate collinearity difficulties and be a source of weak tests of association because the high-strain combination (high demands, low control) would be an infrequent occurrence under such conditions. Because decision latitude is substantially more statistically reliable of the two scales (particularly between occupations), their common variance with a dependent variable is likely to be attributed to decision latitude in hierarchical linear regression models” (p. 347).

² A reviewer suggested that the proposition that “resources reduce demands” might not actually be a hypothesis but “part of the basic definition of the JD-R model.” While I acknowledge that possibility, the original statement (as quoted) makes a direct claim of a *negative association* between resources and demands—and the word “reduces” implies a causal direction. In any case, irrespective of whether or not the authors’ original intention was to advance a specific hypothesis, my objective involves a closer investigation of this statement in an effort to articulate a more nuanced set of interrelationships among resources and demands.

This description is problematic in two fundamental ways. First, it overemphasizes the importance of a multiplicative model for job demands and control/resources—a claim that has subsequently guided decades of research in (often unsuccessful) efforts to confirm the existence of interaction effects (Beehr, Glaser, Canali, & Wallwey, 2001; de Lange et al., 2003; Häusser et al., 2010; Tausig & Fenwick, 2011). Second, and perhaps more importantly, it understates and potentially mischaracterizes the underlying dynamics in the association between job control or resources and demands. As an alternative perspective, I argue for viewing the interrelationships among job resources and demands not merely as “statistical relationships” or allusions to problems of “common variance,” “collinearity difficulties,” or “thin cells,” but rather as representative of *theoretically meaningful* and *substantively consequential* processes in the experiences of workers. The ways that researchers articulate these interrelationships have implications for theories behind the models and the parameters of the concepts themselves. For example, if some forms of job resources are associated with more pressure then researchers should seek to explain these processes in substantive (and not only statistical) terms and in ways other than the commonly hypothesized (potential) interaction effects. I have identified the core tenets of the stress of higher status theory explicitly to elaborate on and articulate this idea.

Part of the impetus behind my interest in these theoretical refinements emerges from the characterization of “job control” itself. In the original JD-C model, this conceptualization was based primarily upon *decision latitude*, which is comprised of two components: “skill discretion” and “decision authority” (Karasek & Theorell, 1990). According to Karasek and associates (1998), skill discretion involves “the level of skill and creativity required on the job and the flexibility permitted the worker in deciding what skills to employ,” while decision authority entails the “organizationally mediated possibilities for workers to make decisions about their

work” (p. 323). To some extent, these themes persist in the JD-R model’s conceptualization of resources.³ In the present analyses, I expand the conceptual frame of job resources by assessing a broader class of conditions that includes control over one’s own work (job autonomy), control over the timing of work (schedule control), control over others’ work (job authority), and control as reflected in challenging or creative activities that involve skill utilization (challenging work).

While job autonomy and schedule control align more distinctly within the customary definition of “resources,” I argue that each of these four conditions is related to the original characterization of job control in the JD-C model or job resources in the JD-R model. Of all these characteristics, job authority has one of the most unambiguous connections to greater responsibility and rewards. People with job authority—also referred to as “span of responsibility” or “organizational control”—have power to set other workers’ pay, the ability to hire and fire people, and supervisory control over others’ activities (Carayon & Zijlstra, 1999; Elliott & Smith, 2004; Mueller & Parcel, 1986). Some scholars have explicitly described job authority as a “highly coveted workplace *resource*” (see Smith, 2002). This is partly due to its link with other favorable conditions such as autonomy, schedule control, greater pay, and chances for advancement (Kalleberg, 2011; Reskin & Ross, 1992; Tausig & Fenwick, 2011). There is evidence, however, that the higher demands associated with authority might offset its rewards (Bakker, van Veldhoven, & Xanthopoulou, 2010; Mirowsky & Ross, 2003; Schieman & Reid, 2009). For example, net of earnings and challenging work, people with authority tend to work longer hours, have more job pressure, and encounter more conflict (Brett & Stroh 2003; Maume & Bellas, 2001; Schieman & Reid, 2008).

The fourth job-related resource that I evaluate in the present study—*challenging work*—involves the extent that workers are required to keep learning new things, engage in creative

³ This is not to suggest, however, that *all* forms of job resources are equivalent to different forms of job control.

activities, use their skills and abilities, and handle a variety of tasks on the job. This concept blends a set of interrelated themes that researchers have referred to with numerous different terms, including “complexity,” “variety,” “non-routine work,” “creative work,” “skill discretion” “learning possibilities,” and “opportunities for professional development” (Bakker & Geurts, 2004; Bakker et al., 2010; Bakker, Demerouti, Taris, Schaufeli, and Schreurs 2003; Dean & Snell, 1991; Hackman & Oldham, 1975; Karasek, 1979, 1985; Kohn & Schooler, 1973; Mirowsky & Ross 2003; Schieman & Young 2010b). There are sound conceptual and empirical reasons for characterizing challenging work as a job-related resource alongside autonomy, schedule control, and authority.⁴ First, the concept has its origins in the JD-C model’s “decision latitude,” which, as I described above, partly involves the degree of *skill* and *creativity* required on the job (Karasek & Theorell, 1990; Karasek et al., 1998). According to Voydanoff (2007), work conditions that foster skill enhancement and utilization, problem solving, learning, and creativity are broadly representative of resources. And, like job authority, while there are undoubtedly many ‘upsides’ to challenging work (Mirowsky and Ross 2003), research links challenging work to various potential ‘downsides’ like longer hours, greater demands, and work intensification (Bakker et al., 2010; Maume & Purcell, 2007). Given these complex patterns, it is worth evaluating if challenging work is associated with job pressure in ways predicted by the resource hypothesis or if its effects are consistent with the stress of higher status hypothesis.

Finally, in addition to these four job-related resources, I also assess the relevance of personal earnings in these processes. While studies in the JD-C/JD-R literature tend to ignore income or simply include it as a control variable in analyses, I more explicitly test income’s relevance alongside these other job resources (Kristensen, Borg, & Hannertz, 2002). From the

⁴ Challenging work is conceptually distinct from these other resources, although they are undoubtedly related empirically (Kalleberg 2011; Mirowsky & Ross, 2007; Schieman & Young, 2010b).

resource hypothesis perspective, higher levels of income should reduce exposure to levels of job pressure. By contrast, however, the stress of higher status view draws upon recent evidence of the positive interrelationships among income, work hours, and job pressure to predict that income should be associated with elevated levels of job pressure (Greenhaus, Peng, & Allen, 2012; Mennino et al., 2005; Tausig & Fenwick, 2011).⁵ However, an important part of this story involves assessing income's association with job pressure net of the other job-related resources.

1.3. Assessing the Influence of Education as an Important Antecedent

While my primary focus centers on the relationship between job resources and pressure, the potential influence of education is also critical from a sociological interest in the dimensions of stratification and inequality. In the present study, I assess the relevance of levels of education as a key *antecedent* to the processes described above. Education itself has direct links to the ideas behind the resource and the stress of higher status hypotheses (Schieman & Glavin, 2011). For example, research shows that the well-educated tend to have greater access to higher status occupations and, by extension, forms of job control (Mirowsky & Ross, 2003; Ross & Wright, 1998; Schieman et al., 2006). At the same time, research documents greater pressure and longer work hours among the well-educated, which may be due to their greater representation in higher status occupations and higher income (Bakker et al., 2010; Hakanen, J., Bakker, & Jokisaari, 2011; Jacobs and Gerson 2004; Schieman & Plickert, 2008; Tausig and Fenwick 2001).

With these ideas and prior empirical observations about education as a backdrop, I assess education-based differences in job pressure. On the one hand, from the perspective of the

⁵ While it is plausible that compensating differentials are offered to workers to induce them to take jobs with greater pressure (a case for an alternative directionality where more job pressure predicts higher income), the essential pattern that I am seeking to underscore here is that higher earnings and higher pressure tend to co-vary in ways that reflect the workload costs related to various forms of job-related control or resources.

resource hypothesis, education itself might function as a resource and therefore be associated with less exposure to job pressure. Conversely, the stress of higher status hypothesis predicts greater exposure to job pressure among those individuals with the highest levels of education. In addition, the analyses presented here provide a unique opportunity to test for mediating linkages in which education-based differences in job pressure might be partly or fully attributable to education's association with occupation, income, and job resources. Evidence for mediating linkages would be present if any of these conditions account for education's association with levels of job pressure in ways consistent with the resource or stress of higher status hypotheses.

Materials and Methods

2.1 Sample

The *2011 Canadian Work Stress and Health Study (CAN-WSH)* is a nationally representative sample of the Canadian labor force. Interviews were conducted by telephone between January and July 2011. The company R.A. Malatest and Associates was hired to collect the data. To be eligible to participate in the study, individuals had to be: (1) residing in Canada; (2) 18 years of age or older; (3) currently working at a paid job or operated an income-producing business; (4) employed in the civilian labour force; and 5) living in a non-institutional residence. In households with more than one eligible person, we used the “next birthday” method to randomly select a study participant. Calls were made to a regionally stratified unclustered random probability sample generated by random-digit-dial methods. Interviews were conducted in English or French and averaged approximately 30 – 35 minutes. Study participants received a \$20 gift card for completing the interview. The final full sample was 6,005. The response rate

was approximately 40 percent.⁶ All of the measures below and the subsequent analyses focus on study participants' main job.

2.2. Measures

Job pressure. I use items that are similar to those used in other previously published research on similar themes like “pressure,” “workload,” or “quantitative demands” (Carayon, & Zijlstra, 1999; Harmä, 2006; Karasek, 1985; Kristensen et al., 2004; Van den Broek, Vansteenkiste, De Witte, & Lens, 2008). Three items ask about the frequency that participants experienced the following in the past three months: “How often did you feel overwhelmed by how much you had to do at work?” “How often did you have to work on too many tasks at the same time?” “How often did the demands of your job exceeded the time you have to do the work?” Response choices are coded: “never” (1), “rarely” (2), “sometimes” (3), “often” (4), and “very often” (5). I averaged the items so that higher scores indicate more job pressure ($\alpha = .85$).

Table 1 reports the distribution of each of these items and summary statistics for the job pressure indices. Roughly one-third of Canadian workers report that they “often” or “very often” feel overwhelmed by work or that the demands of their job exceed the time to do the work; 4 out of 10 workers report having to work on too many tasks at the same time “often” or “very often.”⁷

⁶ Some readers might have concerns about the response rate. Although a potential problem associated with lower response rates is nonresponse bias in estimates (Babbie 2007), recent research has challenged the link between response rates and nonresponse bias (see Grove 2006; Curtin, Presser, and Singer 2000; Merkle and Edelman 2002). Nevertheless, I address the possibility that results were unduly influenced by nonresponse bias. In order to do this, I compared results from unweighted and weighted analyses in which I weighted the sample based on a key set of demographic statuses (e.g. gender, age, marital status, education). I found few differences between the weighted and unweighted results. Winship and Radbill (1994) argue that controlling for characteristics on which individuals may be under- or over-sampled adjusts for biases due to these characteristics; all of my analyses include a set of controls to adjust for this potentiality. In addition, sample descriptive statistics for my variables are indistinguishable to the weighted descriptive statistics, and similar to those in other national surveys. This sample seems fairly representative of the intended population, and nonresponse bias should not a major problem for the estimates being reported.

⁷ A factor analysis shows that the job pressure items load in ways that distinguish them from each of the other job resources described below.

[INSERT TABLE 1 ABOUT HERE]

Education. Level of education is coded as less than high school (1), high school or GED (2), some college, no degree earned (3), 2-year/Associates degree (4), 4-year university degree (5), and graduate or professional degree (6). “High school” is the reference group in all analyses.

Occupation. To assess occupation, participants are asked: “What kind of work do you do? That is, what is your occupation?” This question refers to their main place of employment; that is, the one at which participants spend most of their time. Additional questions were asked about their main duties in order to more accurately code responses. Using the open-ended information provided, occupations are coded into thirty-three categories using the 2006 Canadian National Occupation Classification. Codes were collapsed into seven groups in accordance with the U.S. Bureau of the Census three-digit occupation (SOC) and industry (SIC) classifications. These groups are as follows: “executives,” “professionals,” “technical,” “service,” “sales,” “administrative” and “production.” “Professional” serves as the reference group in all analyses.

Personal income. I coded total personal earnings in the previous year (from all sources) into the following categories: “\$25,000 or less,” “\$25,001 to \$50,000,” “\$50,001 to \$75,000,” “\$75,001 to \$100,000,” “\$100,001 or more.” The modal category of \$25,001 to \$50,000 serves as the reference group in all analyses.

Job autonomy. Three items are used to measure job autonomy. Study participants are asked the extent that they agree or disagree with the following statements: “I have the freedom to decide what I do on my job,” “It is basically my own responsibility to decide how my job gets done,” and “I have a lot of say about what happens on my job.” These items are similar to those in previous studies (e.g., Bakker, Demerouti, & Verbeke, 2004; Karasek, 1985). Response

choices are coded “strongly disagree” (1), “somewhat disagree” (2), “somewhat agree” (3), and “strongly agree” (4). I averaged responses; higher scores reflect more job autonomy ($\alpha = .78$).

Schedule control. Two items are used to measure schedule control: The first item asks: “Who usually decides when you start and finish work each day?” “Someone else” is coded 1, “you are able to decide within limits” is coded 2, and “you are entirely free to decide” is coded 3. A second item asks: “How much control do you have in scheduling your work hours?” Original response choices are coded “none” (1), “very little” (2), “some” (3), “a lot” (4), and “complete control” (5). In order to combine the two items, I recoded the latter’s response choices into three categories: 1 = “none or very little control,” 2 = “some or a lot,” and 3 = “complete control.” I summed these items such that higher scores indicate more schedule control ($\alpha = .75$).

Challenging work. Five items measure challenging work: “My job requires that I keep learning new things,” “My job requires that I be creative,” “My job lets me use my skills and abilities,” “The work I do on my job is meaningful to me,” and “I get to do a lot of different things on my job.” These items blend interrelated themes that scholars refer to as “creative work,” “non-routine work,” “skill utilization,” “learning possibilities,” or “opportunities for professional development” (Bakker & Geurts, 2004; Bakker et al., 2010; Bakker, Demerouti, Taris, Schaufeli, and Schreurs 2003; Hackman & Oldham, 1975; Karasek, 1985; Mirowsky & Ross, 2003; Schieman & Young, 2010). Response choices are coded “strongly disagree” (1), “somewhat disagree” (2), “somewhat agree” (3), and “strongly agree” (4). I averaged the responses; higher scores reflect more challenging work ($\alpha = .78$).

Job authority. I use responses to three items to assess levels of job authority: “Do you supervise or manage anyone as part of your job?” “Do you influence or set the rate of pay received by others?” and “Do you have the authority to hire or fire others?” I coded “no”

responses as (0) and “yes” responses as (1). To create the index I summed these responses so that higher scores indicate more job authority. These items are similar or identical to others in recently published research (Elliott & Smith, 2004; Schieman & Reid, 2008, 2009).⁸

Control measures. All regression models in analyses include sex, age, marital status, children at home, and region of residence. In the second model along with occupation, I include a control for job sector by comparing workers in private for-profit versus government, non-profit, or self-employed/business owners. As described below, in the final model I also adjust for work hours by comparing study participants who work “40 – 50 hours per week” (the modal category) with people who work “fewer than 30 hours per week,” “between 30 and 39,” and “more than 50 hours per week,” and “work hours vary too much weekly to categorize easily.”

2.3. Plan of Analyses

I use ordinary least squares (OLS) regression techniques to test the hypotheses outlined above. First, model 1 in Table 2 regresses job pressure on education (including the control variables). As described above, education is hypothesized to be an important social status antecedent that might influence (and be influenced by) the other focal variables in the models. Subsequent models add (2) occupation; (3) income; and (4) the specific set of job resources: autonomy, schedule control, challenging work, and authority. Given the ways that work hours may be associated with job resources and demands (Bendak, 2003; Hughes & Parkes, 2007; Maume & Purcell, 2007; Steinmetz & Schmidt, 2010; van der Hulst & Geurts, 2001; van der Hulst, Veldhoven, & Beckers, 2006), it is important to statistically account for its potential influence on any observed patterns. I therefore adjust for work hours separately in the final

⁸ The correlations among the job-related resources are as follows: autonomy and schedule control (.51), authority (.34), challenging work (.47); schedule control and authority (.36) and challenging work (.25); authority and challenging work (.25).

model—rather than in the initial model with the other basic control variables—in order to identify its potential relevance for each of the established patterns of association that connect education, occupation, income, and job resources to levels of job pressure. The progressive adjustments that I apply in these models follow from the procedures described by Mirowsky (1999); each is designed to test the *resource* and the *stress of higher status* hypotheses. These steps assess the extent of change in the size of coefficients across models. Progressive adjustments can explain previously observed associations or reveal suppressed effects in which coefficients change direction or become stronger. As a backdrop for these interrelationships, the Appendix provides a set of descriptive reference points for the ways that education-, occupation-, or income-based differences in job pressure might be due to their associations with job resources.

Results

Model 1 in Table 2 shows that the well-educated tend to experience more job pressure than their less-educated peers. Compared to workers with a high school degree, those with a 2-year/Associate degree, a 4-year university degree, or a graduate degree report higher levels of job pressure—and these education-based differences are quite linear. The inclusion of occupation in model 2, however, influences the size of these initial education estimates. Compared to people in professional occupations, each of the following occupation groups reports lower levels of job pressure: technical, sales, administrative, service, and production. Moreover, the well-educated tend to cluster in higher status occupations (e.g., executive or professional), which, in turn, contributes to their greater exposure to job pressure.⁹ Comparing models 1 and 2, the difference between high school versus university or graduate degree decreases by 39 and 43 percent,

⁹ The following are percentages within each education group with occupations that are classified as either executive or professional: post-graduate, 80 percent; a 4-year university degree, 40 percent; a 2-year/Associate's degree, 25 percent; some college, 23 percent; high school, 14 percent; and less than high school, 9 percent.

respectively, but those education contrasts remain statistically significant; however, the difference between those with high school versus a 2-year/Associate degree is no longer significant. Together, models 1 and 2 demonstrate that education-based differences in occupation account for a substantial portion of education-based differences in exposure to job pressure.

[INSERT TABLE 2 ABOUT HERE]

Model 3 reveals non-linear differences in levels of job pressure across income groups. Compared to workers in the reference category (\$25,001 to \$50,000), workers earning \$25,000 or less report a lower average level of job pressure. In fact, the steepest increase in average levels of job pressure occurs between these two lowest earning groups. By contrast, compared to the reference group, workers in the two highest income groups report higher levels of pressure—with peak levels among those earning between \$75,001 and \$100,000. Comparing models 2 and 3, the inclusion of income further contributes to education differences in job pressure, but these differences still remain significant (but they are reduced to the $p < .05$ level). In addition, the occupation-based differences are diminished; that is, adjusting for their higher earnings helps to explain why professionals' report more job pressure relative to the other occupation groups.¹⁰ Net of income, contrasts between professionals and both the sales and service categories are no longer statistically significant. Taken together, model 1 – 3 in Table 2 reveal sizeable overlap among the three core indicators of socioeconomic status in their associations with job pressure—and these patterns also demonstrate that the well-educated tend to experience more job pressure because of their higher status occupations (e.g., executive or professional) and higher earnings.

Turning to the effects of job resources, model 4 indicates that each of four resources is associated with levels of pressure—but in considerably different ways. On the one hand, job

¹⁰ Thirty-one percent of professionals earn more than \$75,000 per year. By contrast, only 10 percent of all of the other occupation groups (excluding executives) earn more than \$75,000 per year.

autonomy and schedule control function more like “resources” in their *negative* associations with pressure. By contrast, challenging work and job authority are associated *positively* with levels of job pressure—patterns that contradict their characterization as “resources” and are instead more consistent with the stress of higher status. In addition, workers with a 4-year/university degree or higher tend to report more job authority and challenging work (see Appendix), which, in turn, further accounts for their higher levels of pressure—but statistically significant education differences remain. Moreover, the highest earners tend to occupy jobs with more authority and challenging work (see Appendix), which reduces the coefficient for the highest earners from .143 to .050 to statistical non-significance. The other two income contrasts from model 3 are both diminished somewhat but remain statistically significant. In addition, it is worth underscoring the fact that challenging work and authority are associated with greater job pressure net of income; in fact, separate analyses (not shown) reveal that most of the influence of challenging work and authority occurs independently of earnings. Likewise, job autonomy and schedule control have negative associations with job pressure independent of their link to higher income. Collectively, my findings demonstrate that the influence of these four job-related “resources” is quite different and largely independent from their association with the rewards of higher earnings.

In model 5, I adjust for work hours in order to assess its potential confounding influence on the patterns observed in the previous models. Work hours are associated with more job pressure, with the highest level of pressure observed among individuals who work the longest hours. Overall, the coefficients for job autonomy, schedule control, challenging work, and authority remain relatively stable net of work hours. However, the income-based differences in job pressure are diminished. The difference between the two lowest earning groups is reduced from -.267 to -.169 but remains significant at the $p < .01$ level; this reduction is due to the fact

that the lowest earners are less likely to work long hours than those in the income bracket above them (see Appendix). Likewise, the higher level of job pressure among those earning between \$75,001 and \$100,000 is due to their greater likelihood of working longer hours; this is evident in the reduction of the associated coefficient from .172 (model 4) to .077 (model 5).¹¹

Discussion

Using data from a 2011 nationally representative sample of Canadian workers, this study tested the resource hypothesis versus the stress of higher status hypothesis. As I described above, the scholars involved in the development of the JD-R model explicitly asserted: “job resources reduce job demands” (Bakker & Demerouti 2007, p. 312). Based on that declaration, I proposed the *resource hypothesis*, which predicted that if job resources actually do reduce job demands then my analyses should have demonstrated that each resource is associated with less job pressure. My findings indicate partial support for the resource hypothesis: Job autonomy and schedule control are associated with less exposure to job pressure. By contrast, however, I also found some evidence to support the stress of higher status hypothesis: Job authority and challenging work are associated with elevated levels of job pressure. Taken together, these observations underscore the importance of further advancing the conceptual and empirical distinctions among job autonomy, schedule control, job authority, and challenging work.

The discovery of these divergent patterns is a main contribution of the present study. And yet, I acknowledge that some critics might doubt the validity of my initial characterization of job authority and challenging work as “resources”—and perhaps even whether or not such a

¹¹ For the sake of space and clarity of presentation of focal patterns, I exclude from the tables the results for the control variables. Several patterns are observed: (1) women report more job pressure than men; (2) the youngest and oldest have less pressure than workers in their middle years; (3) the married have more pressure than the never married; and (4) Ontario residents report more pressure than residents in Quebec and the Atlantic region.

characterization legitimately follows from the conceptual specifications set forth in the JD-R model. As a response, it is constructive to reiterate the definition of resources as explicitly outlined by the proponents of the JD-R model: “Job resources refer to the physical, psychological, social, or organizational aspects of the work context that are either/or: (1) Functional in achieving work goals; (2) Reduce job demands and their associated physiological and psychological costs; (3) Stimulate personal growth, learning, and development” (see Bakker & Demerouti, 2007, p. 312). The core elements of challenging work—jobs that require learning new things, engaging in creative activities, using skills and abilities, and task variety—epitomize this very definition of a highly desirable job-related *resource* (Bakker & Geurts, 2004; Carayon & Zijlstra, 1999; Ganster, 1988; Mirowsky & Ross, 2003; Voydanoff, 2007). Likewise, scholars have characterized job authority as “a highly coveted resource” (Smith, 2002, p. 511)—an apt description given job authority’s clear connection with other favorable conditions like autonomy, schedule control, greater pay, and advancement opportunities (Kalleberg, 2011; Tausig & Fenwick, 2011). In sum, challenging work and control over other people are job-related resources that are also associated with greater exposure to job demands—but we should not mistakenly use this empirical connection as a basis for redefining these resources as demands.

An additional direction of conceptual reflection connects with the ways that scholars have articulated differences between “challenge stressors” and “hindrance stressors” (Cavanaugh, Boswell, Roehling, & Boudreau, 2000; Crawford, LePine, & Rich, 2010; LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007; Webster, Beehr, & Love, 2011). This “challenge-hindrance” literature implies that the JD-R model’s conceptualization of job demands is “too homogenous” and, in response, seeks to identify qualitative distinctions within the broader category of job demands (Podsakoff et al., 2007). Specifically, this literature suggests

that demands that “hinder optimal functioning” should be labeled “job hindrances,” while demands that “require some energy, but are nonetheless stimulating” should be labeled “job challenges” (see Van den Broeck et al., 2010, p. 736). In my view, the question of whether or not the JD-R model’s demands category is “too homogenous” is *not* the central concern. Rather, I argue that the ways these concepts have been articulated and tested is inaccurate. One of my fundamental concerns involves the ways that the “challenge stressor” and “hindrance stressor” conceptualizations blend the independent and dependent variables. If a job characteristic is associated with poor health or problems in functioning then it is labeled a “hindrance stressor.” By contrast, if a job characteristic is stimulating then it is labeled a “challenge stressor.” These labels blur the lines between the job attribute and the consequences that flow from it. A related problem entails references in this literature to “stimulating demands” as “resources.”

The conceptual fuzziness of demands and resources in the challenge-hindrance model is problematic on many levels. The model obscures key distinctions between demands and resources—and, instead, characterizes them as all different kinds of demands. In the present study, I argue that job authority and challenging work are “resources”—and that job pressure is a “demand.” By contrast, as I understand it, the “challenge-hindrance” framework claims that all three—job authority, challenging work, and job pressure—should be labeled “challenge demands” (or “challenge stressors”). A more reasonable approach is to simply measure job characteristics, label them just as they are (i.e., “autonomy”), and then evaluate the ways that they are empirically associated with various outcomes. The additional layer of conceptual labels of these job characteristics in the “challenge-hindrance” literature is not justified or useful.

Switching focus, I would like to address one final point about my observations. Although education is not among the core set of research questions that deal directly with job resources

and their links to pressure, my findings underscore the importance of education as a key antecedent in these processes. The patterns also provide additional support for the stress of higher status hypothesis: The well-educated tend to report higher levels of job pressure, and this is mostly attributable to the tendency for the well-educated to have higher occupational status, earnings, authority, and challenging work. My observations reveal the ways that a core aspect of status and stratification—one linked with favorable personal, social, and economic outcomes—is also related to more pressure. These findings contribute to a literature that has mostly ignored the role of education (for exceptions see Hakanen et al., 2011; Schieman & Glavin, 2011).

Several limitations of this study deserve brief mention. First, the analyses are based on cross-sectional data—so conclusions about causal ordering are not definitive. However, the theoretical framework maps directly onto models that articulate sets of interrelationships among resources and demands. While I have sought to link the analyses to those predictions, I acknowledge that other models are possible. The central point to emphasize in these findings is that while the direction of causality is open to debate, the basic *patterns of association* are evident and can offer meaningful insights about conventional thinking in the JD-R model. A second limitation is that, like many of the prior studies cited here, I too rely on the perceptions and descriptions that study participants provide—not objective accounts. In defense of this strategy, however, my interest is in the ways that participants experience conditions like the pressures associated with the amount of work and the time to complete it. It is a subjective experience—but that is not inconsistent with many of the other job attributes in the JD-R model. Collectively, most of the job resources and demands involve subjective assessments, but there is little reason to doubt that responses should generally correspond with the objective conditions in the workplace. But even if they do not perfectly align with objective conditions, the subjective

experience of workers matter too (in fact, they may ultimately be more important for a variety of outcomes).

Despite these limitations, some of the main observations in this study underscore the importance of explicitly testing *all* of the components of the JD-R model and, when necessary and appropriate, attempting to refine its conceptualizations and revise its core predictions. The emerging perspective—*the stress of higher status*—provides some possible paths in that pursuit. This view does not suggest that workers in lower status occupations have no stress or are unaffected by unfavorable work contexts and conditions. Indeed, some features of lower status jobs may be related to rather negative dynamics and consequences. All workers—across all statuses—are subject to stress exposures. Ultimately, the sum of all stressors in the workplace may reveal that those with lower status occupations end up the most disadvantaged. And yet, that possibility does not discount the relevance of the stress of higher status and what it implies for conventional views of job-related resources, demands, and ultimately, the nature of “work stress” at all levels and across occupational and organizational contexts.

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Appendix. Means for Job Pressure and Job-Related Resources across Levels of Education, Occupation, and Income (N = 5,750)

	Job Pressure	Job Authority	Challenging Work	Job Autonomy	Schedule Control
<i>Education</i>					
Less than High School	2.697	.731	3.145	2.910	3.577
High School (REF)	2.766	.632	3.184	2.824	3.324
Some College	2.836	.786	3.125	2.820	3.443
2-year/Associate Degree	2.944	.786	3.359*	2.882	3.393
4-year/College Degree	3.116*	.846*	3.348*	2.860	3.491
Graduate Degree	3.240*	1.175*	3.523*	3.137*	3.871*
<i>Occupation</i>					
Executive	3.248	2.026*	3.478	3.329*	4.290*
Professional (REF)	3.213	.875	3.518	2.980	3.602
Technical	2.911*	.775	3.386*	2.968	3.542
Sales	2.814*	.468*	2.902*	2.591*	3.331*
Administrative	2.845*	.380*	3.019*	2.523*	3.065*
Service	2.830*	.537	3.065*	2.757*	3.259*
Production	2.717*	.768*	3.242*	2.872	3.335*
<i>Income</i>					
\$25,000 or less	2.634*	.469*	3.071*	2.719	3.389
\$25,001 to \$50,000 (REF)	2.993	.703	3.276	2.835	3.357
\$50,001 to \$75,000	3.102	.947*	3.403*	2.962*	3.522*
\$75,001 to \$100,000	3.333*	1.143*	3.482*	3.034*	3.574*
\$100,001 or more	3.197*	1.765*	3.533*	3.251*	4.176*

* Differences with reference category are significant at $p < .001$ (two-tailed test).

TABLE 1. Distribution of Job Pressure Items

Job Pressure Items

“In the past three months, how often did you feel overwhelmed by how much you had to do at work?”

(1) Never	15.31 ^a
(2) Rarely	23.32
(3) Sometimes	32.15
(4) Often	18.61
(5) Very Often	10.61

“In the past three months, how often did you have to work on too many tasks at the same time?”

(1) Never	13.54
(2) Rarely	19.84
(3) Sometimes	25.99
(4) Often	22.94
(5) Very Often	17.69

“In the past three months, how often did the demands of your job exceed the time you have to do the work?”

(1) Never	17.39
(2) Rarely	22.82
(3) Sometimes	25.40
(4) Often	19.27
(5) Very Often	15.12

<i>Job Pressure Index</i>	Mean	2.965
	Standard Deviation	1.096

^a All numbers for the response categories reflect weighted percentages.

TABLE 2. Regression of Job Pressure on Focal Independent Variables

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Education</i>					
Less than High School ^a	-.040	-.015	.016	.027	.015
Some College ^a	.060	.024	.030	.016	.020
2-year/Associate Degree ^a	.136*	.117	.079	.055	.058
College Degree ^a	.282***	.173**	.131*	.114*	.109
Graduate/Professional Degree ^a	.401***	.228**	.165*	.156*	.137*
<i>Occupation</i>					
Executive ^b	—	.094	.078	-.026	-.091
Technical ^b	—	-.220***	-.157**	-.151**	-.142**
Sales ^b	—	-.213**	-.104	-.066	-.044
Administrative ^b	—	-.299***	-.221**	-.193**	-.195**
Service ^b	—	-.228***	-.125	-.095	-.099
Production ^b	—	-.283***	-.229***	-.240***	-.339***
<i>Income</i>					
\$25,000 or less ^c	—	—	-.308***	-.267***	-.169**
\$50,001 to \$75,000 ^c	—	—	.030	.011	.029
\$75,001 to \$100,000 ^c	—	—	.215***	.173**	.076
\$100,001 or more ^c	—	—	.143*	.050	-.051
<i>Job-Related Resources</i>					
Job Autonomy	—	—	—	-.168***	-.153***
Schedule Control	—	—	—	-.068***	-.058**
Challenging Work	—	—	—	.153***	.113**
Job Authority	—	—	—	.191***	.150***
<i>Weekly Work Hours</i>					
Fewer than 30	—	—	—	—	-.378***
30 – 39	—	—	—	—	-.215***
50 or more	—	—	—	—	.335***
Hours Vary	—	—	—	—	-.179*
Constant	2.929	3.168	3.092	3.112	3.143
N	5,750	5,750	5,750	5,750	5,750
R ²	.051	.069	.086	.122	.153

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed test).

^a Compared to high School degree or GED.

^b Compared to professionals.

^c Compared to \$25,001 to \$50,000.

Note: Unstandardized regression coefficients shown in table. For the sake of space and presentation, I exclude standard errors. All models control for sex, age, marital status, children living in the household, and region; job sector is added in model 2 along with occupation.