

# The Effects of Skill Variety, Task Significance, Task Identity and Autonomy on Occupational Burnout in a Hospital Setting and the Mediating Effect of Work Meaningfulness

Nicholas Bremner  
Jules Carrière

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## THE EFFECTS OF SKILL VARIETY, TASK SIGNIFICANCE, TASK IDENTITY AND AUTONOMY ON OCCUPATIONAL BURNOUT IN A HOSPITAL SETTING AND THE MEDIATING EFFECT OF WORK MEANINGFULNESS

The relationships between four job characteristics, meaningful work, and burnout were examined. Meaningful work had a negative relationship with two dimensions of burnout and minimal mediation effects. Skill variety and task identity had direct effects on cynicism and professional efficacy, respectively. Results indicate that other factors must explain incremental variance of meaningful work.

Work must possess some inherent purpose or provide value to its incumbent; a salary or reward, a feeling of achievement or prestige, or perhaps something more meaningful. In recent years, more people are choosing to search for meaning at work than in any other domain of life (Holbeche & Springett, 2004). Considering most adults spend nearly half of their waking lives at work, this is not surprising (Wrzesniewski, 2003). It would make sense that the activity most individuals fill the majority of their time with should be engaged in only with good reason.

Unfortunately, troublesome conditions such as burnout (a syndrome of emotional exhaustion, cynicism, and reduced professional efficacy) are commonplace at work, with severe cases having a prevalence of up to 11% in some “high-risk” occupations (Schaufeli & Buunk, 2002). It is likely that individuals experiencing burnout are not deriving the satisfaction or meaning out of their work that is necessary to sustain their psychological well-being. This is an important issue to address since burnout has negative affective, cognitive, physical, and behavioral consequences for individuals (Schaufeli & Buunk, 2002).

Recent research has adopted the job demands-resources (JD-R) model to explain how burnout originates and has shown that heightened job demands and a deficit of job resources predict an increase in future self-reported burnout scores (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli, Bakker, & Van Rhenen, 2009). The present study examines four job characteristics (skill variety, task significance, task identity and autonomy) intended to enhance the experience of meaningful work and posits that these job characteristics can all be considered job resources (Hackman, Oldham, Janson, & Purdy, 1975). It is hypothesized that these job characteristics affect employees' experiences of burnout directly, but also affect their experience of burnout indirectly through the experience of meaningful work.

In sum, the purpose of the present study is to examine the relationship between four job characteristics, the experience of meaningful work and burnout in the healthcare field – a field where individuals are at a higher risk of burning out (Schaufeli & Buunk, 2002).

### **The Psychological Experience of Meaningful Work as an Outcome of Job Characteristics**

Although work can be either salaried or volunteer (i.e., unsalaried), its definition is the same: work is productive activity (Haughey, 1989). More specifically, work is an inherently value-laden human activity having a formative effect both on the person performing the work (through formation and remuneration), and on the object it is directed toward (through process and product) (Naughton, 1992). A review of the literature revealed that *meaningfulness* in the context of work has been conceptualized in a variety of ways. A summary of these conceptualizations is presented below in Table 1.

**Table 1**

**Summary of Conceptualizations of Meaningful Work**

| <b>Author(s)</b>                          | <b>Definition</b>  |
|---|--|
| (Bessette, 2003)                          | Individual perceptions of spirituality at work, which is the basic desire to find ultimate meaning and purpose in one's life and to live an integrated life.   |
| (Kristensen, Hannerz, Hogh, & Borg, 2005) | A resulting feeling of the organization of work and job content.   |
| (Spreitzer, 1995)                         | The value of a work goal or purpose, judged in relation to an individual's own ideals or standards. Meaning involves a fit between the requirements of a work role and beliefs, values, and behaviors. |
| (Treadgold, 1999)                         | The perception of work as something that the individual is intrinsically motivated to do and also feels called to do by their inner guidance.  |

While there are commonalities between most of the definitions of meaningful work, some conceptualizations were significantly different from others and had an impact on how this construct was operationalized. The general theme of the definitions reviewed was that meaningful work was perceived as inherently valuable or worthwhile to the incumbent. The definitions differed on where that value stemmed from, however. Conceptualizations by Bessette (2003) and Treadgold (1999) indicated that individuals derived value from their work through spirituality or an inner guidance, while Kristensen and associates' (2005) conceptualization of meaningful work indicated that value stemmed primarily from characteristics of the job and how one's work is organized.

The present study has chosen to adopt Spreitzer's (1995) definition of meaning, which is "the value of a work goal or purpose, judged in relation to an individual's own ideals or standards. Meaning involves a fit between the requirements of a work role and [the] beliefs, values, and behaviors [of its incumbent]," (p. 1443). This definition offers a more general conceptualization of meaningful work and was found to have been used the most frequently by other scholars (Brief & Nord, 1990; Hackman & Oldham, 1980; May, Richard, & Harter, 2004; Renn & Vandenberg, 1995; Spreitzer, 1995; Thomas & Velthouse, 1990). Spreitzer's (1995) definition does not pose any restrictions on the nature of the connection between the job and its incumbent. For instance, an employee may derive meaning through connecting with his or her job on a spiritual level or through identification with the purpose of the job or mission of the organization. This definition is also consistent with the theory behind Hackman and Oldham's (1976) job characteristics model (JCM). The job characteristics examined in this study are a part of the JCM and are hypothesized to predict the experience of meaningful work.

The JCM proposes three job characteristics that together predict the psychological experience of meaningful work: skill variety (degree to which the employee is required to use a variety of different skills and abilities when carrying out job duties), task identity (degree to which the employee has the opportunity to perform a task from beginning to end with a visible outcome) and task significance (degree to which the employee has a substantial and perceivable impact on others, either inside or outside of the organization) (Hackman & Oldham, 1976, 1980). The Job Diagnostic Survey (JDS) was developed to test this theoretical framework (Hackman & Oldham, 1975). In addition to meaning, the JDS measures autonomy (degree to which the employee can exercise his/her discretion while performing work) but the JCM does not consider it as an antecedent of meaningful work. Other literature, however, suggests that autonomy does contribute to the experience of meaningful work. A review of research on the JCM by Fried and Ferris (1987) reported that autonomy was significantly associated with meaningful work. In addition, Morin (2008) has proposed that autonomy is a source of meaningful work and Isaksen (2000) found that autonomy was one of several mechanisms through which individuals found meaning in their work. Consequently, it is expected that skill variety, task identity, task significance, and autonomy will be significantly related to meaningful work.

*Hypothesis 1a.* Skill variety will be positively related to meaningful work.

*Hypothesis 1b.* Task significance will be positively related to meaningful work.

*Hypothesis 1c.* Task identity will be positively related to meaningful work.

*Hypothesis 1d.* Autonomy will be positively related to meaningful work.

### **The Role of Job Characteristics and Meaningful Work in the Development and Prevention of Burnout**

Burnout is a concept that has been studied extensively throughout the past 35 years (Schaufeli, Leiter, & Maslach, 2009). It is defined here as "a state of exhaustion in which one is cynical about the value of one's occupation and doubtful of one's capacity to perform," (Maslach, Jackson, & Leiter, 1996, p. 209). Burnout is a crisis with work in general and is characterized by negative attitudes or affect toward the self, others at work, or one's job. It is a response to the belief that one's work-related goals have not been achieved (Golembiewski, Munzenrider, & Carter, 1983; Schaufeli & Buunk, 2002). Burnout consists of three dimensions: exhaustion, cynicism, and a reduced sense of professional efficacy (Maslach, et al., 1996; Schaufeli, Salanova, González-Romá, & Bakker, 2002). Exhaustion refers to general fatigue and strain associated with working, cynicism is an indifferent or distant attitude towards work, and professional efficacy represents an individual's perception of how successful he/she is at accomplishing both social and non-social work objectives.

Burnout is associated with a myriad of negative outcomes such as reduced mental health and psychological well-being, lower job satisfaction, poor work quality and performance, and withdrawal behavior (Bovier, Arigoni, Schneider, & Gallacchi, 2009; Rabin, Matalon, Maoz, & Shiber, 2005). Consequently, finding practices to reduce employees' negative perceptions of work and the occurrence of burnout are of paramount importance.

The present study adopts the job demands-resources (JD-R) model of burnout to explain how job characteristics and meaningful work can affect burnout (Demerouti, et al., 2001). The JD-R model posits that burnout develops through two distinct processes. In the first process, extreme job demands overtax the employee and lead to exhaustion. Job demands are the physical, social, or organizational aspects of a job that require an employee to exert sustained physical or mental effort. When an

employee experiences too many job demands, he/she is more likely to experience burnout, specifically exhaustion. The second process involves a lack of job resources. Job resources are the physical, psychological, social, or organizational aspects of a job that may do one or more of the following: reduce job demands, assist in achieving work goals, or stimulate personal growth and development. When an employee has a lack of job resources, it makes it more difficult for him/her to meet job demands and eventually leads to withdrawal or disengagement from work (i.e., attitudes and behaviors characterized by cynicism) (Demerouti, et al., 2001). It is argued here that when individuals cannot obtain their goals due to a lack of resources, they will also experience feelings of reduced professional efficacy.

Each of the four job characteristics tested in the current study can be considered job resources (Bakker & Demerouti, 2007). When employees lack autonomy, they may not be equipped to meet the demands that are placed upon them. Furthermore, depending on an individual's work goals, autonomy may be a necessary resource to achieve these goals. Skill variety, task identity and task significance are all job characteristics that stimulate personal growth and development (Hackman, et al., 1975) and can help employees achieve their work goals. When employees are given the opportunity to maximize the use of their talent and ability for pursuing a clearly identifiable and worthy outcome or goal, they are more likely to consider their job as one that helps them meet their own personal goals and aspirations. If the aforementioned job characteristics are considered to be job resources, their presence should reduce burnout through the second process specified in the JD-R model. Therefore it is expected that these job characteristics will have a negative relationship with cynicism and reduced professional efficacy. In addition, due to the highly demanding nature of healthcare work, employees without the requisite job resources to buffer or help cope with these demands are expected to experience greater amounts of exhaustion (Bakker & Demerouti, 2007).

*Hypothesis 2a.* Skill variety, task identity, task significance and autonomy will be negatively related to exhaustion.

*Hypothesis 2b.* Skill variety, task identity, task significance and autonomy will be negatively related to cynicism.

*Hypothesis 2c.* Skill variety, task identity, task significance and autonomy will be negatively related to reduced professional efficacy.

Meaningful work occurs when there is a fit between an employee's personal values and work goals and burnout arises from a misfit between one's intentions and the reality of the job (Schaufeli & Enzmann, 1998; Spreitzer, 1995). When the characteristics of an employee's job fit with their own values they are more inclined to consider their work to be meaningful. However, when there is a mismatch because of a lack of job resources (or an excess of demands), the lack of meaning is likely to be replaced by feelings of exhaustion, cynicism and reduced professional efficacy. Based on the premise that meaningful work and burnout result from either a person-job fit or misfit, respectively, these constructs appear to be mutually exclusive and will have a negative relationship with each other. There is empirical evidence supporting the negative association of meaningful work and burnout (Cartwright & Holmes, 2006; Golembiewski, et al., 1983; Leiter & Harvie, 1998; May, et al., 2004; Shanafelt, et al., 2009).

This study explores whether meaningful work actually explains the effects of its determinants on employees' experience of burnout. Considering the hypothesized relationships between each job characteristic and meaningful work (H1a - H1d), and the clear negative relationship that meaningful work and burnout have with one another, it is reasonable to expect that meaningful work can serve as an intervening variable and explain the influence of job characteristics on burnout. In support, May, et

al. (2004) found that meaningful work fully explained the influence of job enrichment (measured using the JDS) and work role fit on engagement (the opposite of burnout) (Maslach, et al., 1996).

However, because of the hypothesized direct effects of job characteristics on burnout (H2a - H2c), it is expected that meaningful work will only partially mediate the relationships between each job characteristic and dimension of burnout. This reasoning is in line with Renn and Vandenberg's (1995) findings that meaningful work explains only a portion of the influence of its determinants (i.e., job characteristics) on motivational, attitudinal, and performance-related outcomes. They contend that the indirect effects of job characteristics through meaningful work represent an individual's well thought out and long term assessment of his/her job, while the direct effects represent a more immediate affective response to his/her job. For ease of reference, a summary of the hypotheses are presented in Figure 1.

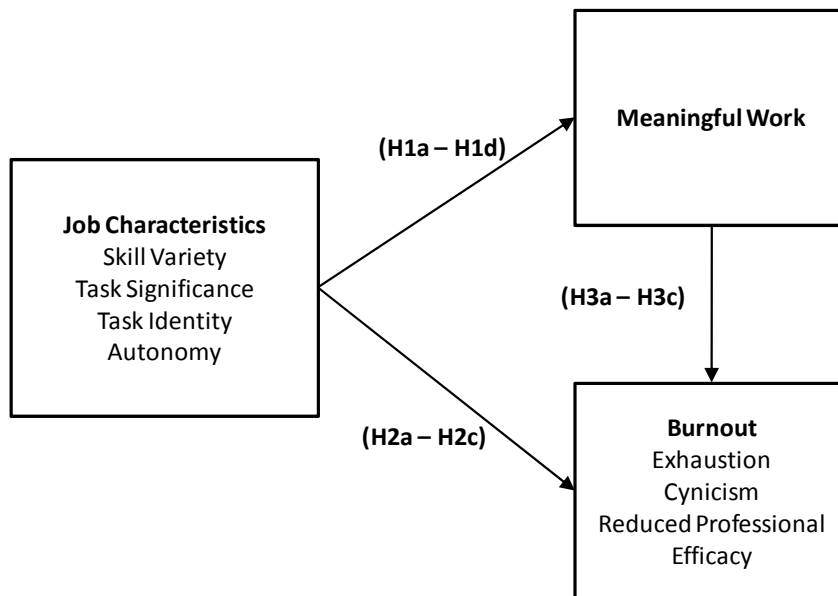
*Hypothesis 3a.* Meaningful work will partially mediate the relationship between skill variety, task significance, task identity and autonomy, and exhaustion.

*Hypothesis 3b.* Meaningful work will partially mediate the relationship between skill variety, task significance, task identity and autonomy, and cynicism.

*Hypothesis 3c.* Meaningful work will partially mediate the relationship between skill variety, task significance, task identity and autonomy, and reduced professional efficacy.

**Figure 1**

**Summary of Hypothesized Relationships between Job Characteristics, Meaningful Work, and Burnout**



## Methodology

### Sample and Procedures

A survey was distributed to a sample of approximately 1100 workers from a Canadian hospital and was administered in the French language. The survey was designed in English, translated into French and back-translated into English to be validated for translation accuracy. An internal research office at the hospital provided assistance by attaching a hardcopy of each survey to the paystub of each employee. Respondents were asked to return the survey to the research office through the internal mailing system once it had been completed. All respondents were assured that their responses would be kept confidential. Furthermore, to ensure that employees would not be identified by their demographics, responses were categorized into intervals. After accounting for a response rate of approximately 16% and missing data, useable data were obtained ranging from 149 to 170 respondents (depending on the variable). The respondents were 84% female, were normally distributed by age, and 95% possessed at least a college education.

To ensure the sample's representativeness despite the low response rate, employee demographics were requested from the Human Resources department at the hospital and compared to the demographics of the sample. A company-wide breakdown of age, gender, position, and average years of service (organizational tenure) were provided and found to be closely representative of the demographic makeup of the sample with two exceptions. First, the proportion of administrative staff working at the hospital (40%) was substantially greater than the proportion of respondents who held administrative positions (28%). Second, the proportion of management staff working at the hospital (5%) was substantially lower than the proportion of respondents holding management positions (14%). These differences have implications for the generalizability of the results and are addressed in the discussion. In addition, due to the amount of missing data for some variables, a missing values analysis was conducted. Through examining each variable using separate variance t-tests, crosstabulations with categorical variables, and Little's MCAR test, it was determined that none of the missing values were affecting the remainder of the variables and the data were missing completely at random (SPSS Inc., 2007).

### Measures

The survey used was a composite of previously created scales from a number of different sources. All scales were either originally in 7-point Likert scale format or adapted to this format. Each scale demonstrated acceptable levels of internal consistency prior to selection. Some subscales, however, did not demonstrate a desirable levels of internal consistency when administered to the current sample. This will be addressed further in the discussion.

**Meaningful work.** The degree to which respondents experienced meaningful work was assessed using a 6 item scale ( $\alpha=.936$ ). This measure has been used by May, et al. (2004) and is consistent with Spreitzer's (1995) definition of meaningful work.

**Job characteristics.** A total of 17 items from the Job Diagnostic Survey (JDS) were used to assess four job characteristics (Hackman & Oldham, 1980). Skill variety was measured using a 5-item scale ( $\alpha=.769$ ), task significance was measured using a 4-item scale ( $\alpha=.689$ ), task identity was measured using a 4-item scale ( $\alpha=.526$ ), and autonomy was measured using a 4-item scale ( $\alpha=.614$ ).



**Burnout.** The degree to which respondents experienced occupational burnout was measured using the Maslach Burnout Inventory - General Survey (MBI-GS), which consisted of 16 items (Maslach, et al., 1996). The MBI-GS is comprised of three subscales intended to measure one latent factor each: a 5-item scale measuring exhaustion ( $\alpha=.881$ ), a 5-item scale measuring cynicism ( $\alpha=.789$ ), and a 6-item scale measuring professional efficacy ( $\alpha=.602$ ). The professional efficacy scale was reverse scored so that a higher score represented a lower amount of professional efficacy. Although three forms of MBI exist, the MBI-GS was deemed most appropriate for two reasons: (1) cynicism has been linked to the absence of meaningfulness at work (Cartwright & Holmes, 2006), and (2) not all respondents in the sample had contact with people, ruling out the use of the MBI-HSS. In the past, other researchers have made use of the same measure in a similar setting (Leiter, Harvie, & Frizzell, 1999).

**Control variables.** Additional variables included in the survey were age, gender, level of education, position in the organization, length of time worked in the current position (position tenure), length of time worked in current line of work (career tenure), and length of time worked for the organization (organization tenure). Age and tenure variables were grouped into categories to preserve anonymity.

## Results

To determine whether meaningful work partially mediates the relationship between each job characteristic and each dimension of burnout, Baron and Kenny's (1986) technique for testing mediation was used. This technique involves three steps. The first step is to perform a bivariate analysis and establish the relationships between the variables being studied. To support a hypothesis of mediation, there must be significant correlations between the independent and dependent variables (i.e., each job characteristic and burnout dimension), and the mediator and dependent variables (i.e., meaningful work and each burnout dimension). The second step involves performing a series of regression analyses. First, the mediator is regressed on the independent variables (test of H1a - H1d); second, the dependent variable is regressed on the independent variables (test of H2a - H2c); and third, the dependent variable is regressed on both the independent variables and the mediator (test of H3a - H3c). Support for the mediation hypothesis exists only if the independent variables significantly affect the mediator in the first regression equation; the independent variables significantly affect the dependent variable in the second regression equation; and the mediator affects the dependent variable in the third regression equation. In the third and final step, the effect of the independent variables and the mediator on the dependent variable are examined. For full mediation to hold, the effect of the independent variables must be reduced to nonsignificance in the third regression equation after controlling for the mediator. If the effect of the independent variables on the dependent variable remain significant, but are less significant in the third regression equation than in the second, partial mediation is present. Because this study is testing three dependent variables, this process must be repeated each time for each dependent variable.

### Correlations between Control Variables, Predictors, Mediator, and Outcomes

Means, standard deviations, and correlations between the predictor, mediator, outcome, and control variables can be found in Table 2. It should be noted that correlations associated with the "position" variable could not be meaningfully interpreted due to its nominal nature and thus were not included in the table. The significant correlations between control variables and study variables included: Age with skill variety ( $r = 0.23, p < 0.01$ ), task significance ( $r = 0.19, p < 0.05$ ), autonomy ( $r =$

0.16,  $p < 0.05$ ), and meaningful work ( $r = 0.18, p < 0.05$ ). This implies that older respondents typically hold more significant and challenging positions that they perceive as meaningful. Education with skill variety ( $r = 0.23, p < 0.01$ ), and autonomy ( $r = 0.26, p < 0.01$ ). This implies that respondents with higher levels of education hold more challenging positions that require the use of a greater variety of skills and personal discretion. Position tenure with task significance and meaningful work ( $r = 0.16, p < 0.05$ ). This implies that employees who have held their position for longer perceive their work as meaningful.

Significant correlations between job characteristics and burnout dimensions were as expected with one exception: exhaustion was not correlated with task significance ( $r = -0.2$ ). The remaining job characteristics all had significant negative correlations with each dimension of burnout. As expected, meaningful work had positive significant correlations with skill variety ( $r = 0.42, p < 0.01$ ), task significance ( $r = 0.34, p < 0.01$ ), task identity ( $r = 0.18, p < 0.05$ ), and autonomy ( $r = 0.17, p < 0.05$ ). Meaningful work also had significant negative correlations to exhaustion ( $r = -0.30, p < 0.01$ ), cynicism ( $r = -0.37, p < 0.01$ ), and reduced professional efficacy ( $r = -0.50, p < 0.01$ ). These correlations (with the exception of the correlation between exhaustion and task significance) provide the necessary support to continue on with the proposed mediation hypotheses.

Table 2

Means, Standard Deviations, Correlations, and Scale Reliability Coefficients for Study and Control Variables

|                             | Mean  | SD   | n   | 1      | 2      | 3       | 4      | 5      | 6       | 7       | 8       | 9       | 10      | 11     | 12     | 13     |
|-----------------------------|-------|------|-----|--------|--------|---------|--------|--------|---------|---------|---------|---------|---------|--------|--------|--------|
| <b>1. Age</b>               | 3.62  | 1.22 | 170 |        |        |         |        |        |         |         |         |         |         |        |        |        |
| <b>2. Gender</b>            | 1.84  | 0.37 | 160 | -.118  |        |         |        |        |         |         |         |         |         |        |        |        |
| <b>3. Education</b>         | 3.73  | 0.87 | 164 | .057   | -.049  |         |        |        |         |         |         |         |         |        |        |        |
| <b>4. Position Tenure</b>   | 2.81  | 1.57 | 169 | .514** | -.114  | -.221** |        |        |         |         |         |         |         |        |        |        |
| <b>5. Career Tenure</b>     | 3.70  | 1.66 | 170 | .702** | -.196* | .003    | .640** |        |         |         |         |         |         |        |        |        |
| <b>6. Skill Variety</b>     | 26.82 | 5.96 | 165 | .230** | -.051  | .228**  | .131   | .227** | (.769)  |         |         |         |         |        |        |        |
| <b>7. Task Significance</b> | 23.40 | 4.03 | 168 | .190*  | .038   | .007    | .163*  | .184*  | .461**  | (.689)  |         |         |         |        |        |        |
| <b>8. Task Identity</b>     | 21.15 | 3.87 | 166 | -.003  | .051   | -.049   | -.036  | -.001  | .091    | .228**  | (.526)  |         |         |        |        |        |
| <b>9. Autonomy</b>          | 18.89 | 4.74 | 167 | .156*  | -.120  | .261**  | .082   | .238** | .434**  | .139    | .233**  | (.614)  |         |        |        |        |
| <b>10. Meaningful Work</b>  | 36.80 | 5.60 | 169 | .181*  | .061   | -.030   | .162*  | .161*  | .421**  | .335**  | .175*   | .170*   | (.936)  |        |        |        |
| <b>11. Exhaustion</b>       | 15.66 | 6.71 | 161 | -.091  | .091   | -.019   | .029   | -.041  | -.196*  | -.024   | -.186*  | -.168*  | -.295** | (.881) |        |        |
| <b>12. Cynicism</b>         | 11.51 | 5.95 | 149 | -.161  | -.106  | -.022   | .069   | -.020  | -.491** | -.376** | -.266** | -.289** | -.365** | .472** | (.789) |        |
| <b>13. Reduced PE</b>       | 12.83 | 4.75 | 158 | -.141  | .056   | -.068   | -.076  | -.144  | -.404** | -.329** | -.274** | -.285** | -.497** | .223** | .425** | (.602) |

Notes: N ranges from 149 to 170 due to missing data; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; Professional Efficacy (PE); Diagonals in parentheses represent Cronbach's Alpha

## Regression Analyses

In accordance with Baron and Kenny's (1986) procedure for testing mediation, H1 - H3 were tested using mediation regression analysis.

**Testing H1a-H1d.** To determine if meaningful work is significantly related to each job characteristic, linear regression analysis was performed. The results of the analysis are presented in Table 3. The control variables (age, gender, education, position tenure, and career tenure) were entered in the first step and accounted for 4.8 percent of the variance of meaningful work. None of the control variables had significant coefficients. In the second step, skill variety, task significance, task identity, and autonomy were added to the equation explaining an additional 19.1 percent of the variance of meaningful work. The only independent variable with a significant regression coefficient was skill variety ( $\beta = .364, p < 0.001$ ). Thus, only hypothesis 1a was supported.

**Table 3**  
**Mediator Regressed on Independent Variables**

| Variable                                     | $\beta$ | t     | p    | R <sup>2</sup> | Adj. R <sup>2</sup> | $\Delta R^2$ | F       |
|--|---------|-------|------|----------------|---------------------|--------------|---------|
| <b>Meaningful Work as Potential Mediator</b> |         |       |      |                |                     |              |         |
| <i>Step 1: Control Variables</i>             |         |       |      | .048           | .016                |              | 1.495   |
| Age  | .121    | 1.066 | NS   |                |                     |              |         |
| Gender                                       | .092    | 1.129 | NS   |                |                     |              |         |
| Education                                    | -.016   | -.186 | NS   |                |                     |              |         |
| Position tenure                              | .078    | .706  | NS   |                |                     |              |         |
| Career tenure                                | .045    | .348  | NS   |                |                     |              |         |
| <i>Step 2: Independent Variables</i>         |         |       |      | .239           | .192                | .191         | 5.062** |
| Skill variety                                | .364    | 3.944 | .000 |                |                     |              |         |
| Task significance                            | .121    | 1.418 | NS   |                |                     |              |         |
| Task identity                                | .110    | 1.422 | NS   |                |                     |              |         |
| Autonomy                                     | -.010   | -.110 | NS   |                |                     |              |         |

**Notes:** NS = Not significant; \*\*  $p < 0.01$ ; \*  $p < 0.05$

**Testing H2a-H2c.** To determine if each job characteristic is significantly related to each dimension of burnout, three separate regressions were run to test each hypothesis. Results for these regressions can be found in Table 4. For each regression, the control variables (age, gender, education, position tenure, and career tenure) were entered in the first step. In the second step, skill variety, task significance, task identity, and autonomy were entered. With exhaustion as the dependent variable, the control variables explained 2.4 percent of the variance. Entering the four job characteristics explained an additional 7.8 percent of the variance. The regression coefficients for skill variety ( $\beta = -.215, p < 0.05$ ) and task identity ( $\beta = -.179, p < 0.05$ ) were significantly related to exhaustion, providing partial support for hypothesis 2a. With cynicism as the dependent variable, the control variables explained 7.3 percent of the variance. Entering job characteristics explained an additional 31.3 percent of the variance. The

regression coefficients for skill variety ( $\beta = -.394, p < 0.001$ ) and task identity ( $\beta = -.146, p < 0.05$ ) were significantly related to cynicism, providing partial support for hypothesis 2b. With reduced professional efficacy as the dependent variable, the control variables explained 2.9 percent of the variance. Entering job characteristics explained an additional 21.5 percent of the variance. The regression coefficients for skill variety ( $\beta = -.274, p < 0.01$ ) and task identity ( $\beta = -.196, p < 0.05$ ) were significantly related to cynicism, providing partial support for hypothesis 2c. In sum, skill variety and task identity were significantly negatively related to all dimensions of burnout, while task significance and autonomy had no relationship with any of the dimensions.

**Table 4**

**Dependent Variables Regressed on Independent Variables**

| Variable   | $\beta$ | t      | p    | R <sup>2</sup> | Adj. R <sup>2</sup> | $\Delta R^2$ | F       |
|--|---------|--------|------|----------------|---------------------|--------------|---------|
| <b>Exhaustion as Dependent Variable</b>                    |         |        |      |                |                     |              |         |
| <i>Step 1: Control Variables</i>                           |         |        |      | .024           | -.010               |              | .711    |
| Age  | -.142   | -1.217 | NS   |                |                     |              |         |
| Gender   | -.089   | 1.059  | NS   |                |                     |              |         |
| Education  | .019    | .214   | NS   |                |                     |              |         |
| Position tenure  | .115    | 1.021  | NS   |                |                     |              |         |
| Career tenure  | .002    | .018   | NS   |                |                     |              |         |
| <i>Step 2: Independent Variables</i>                       |         |        |      | .102           | .044                | .078         | 1.771   |
| Skill variety  | -.215   | -2.114 | .036 |                |                     |              |         |
| Task significance  | .121    | 1.282  | NS   |                |                     |              |         |
| Task identity  | -.179   | -2.088 | .039 |                |                     |              |         |
| Autonomy   | -.056   | -.587  | NS   |                |                     |              |         |
| <b>Cynicism as Dependent Variable</b>                      |         |        |      |                |                     |              |         |
| <i>Step 1: Control Variables</i>                           |         |        |      | .073           | .039                |              | 2.114   |
| Age  | -.312   | -2.638 | .009 |                |                     |              |         |
| Gender   | -.109   | -1.280 | NS   |                |                     |              |         |
| Education  | 0.32    | .365   | NS   |                |                     |              |         |
| Position tenure  | .188    | 1.646  | NS   |                |                     |              |         |
| Career tenure  | .057    | .426   | NS   |                |                     |              |         |
| <i>Step 2: Independent Variables</i>                       |         |        |      | .387           | .344                | .313         | 9.101** |
| Skill variety  | -.394   | -4.502 | .000 |                |                     |              |         |
| Task significance  | -.154   | -1.899 | NS   |                |                     |              |         |
| Task identity  | -.146   | -1.980 | 0.50 |                |                     |              |         |
| Autonomy   | -.128   | -1.558 | NS   |                |                     |              |         |
| <b>Reduced Professional Efficacy as Dependent Variable</b> |         |        |      |                |                     |              |         |
| <i>Step 1: Control Variables</i>                           |         |        |      | .029           | -.006               |              | .830    |
| Age  | -.075   | -.638  | NS   |                |                     |              |         |
| Gender   | .027    | .319   | NS   |                |                     |              |         |
| Education  | -.059   | -.678  | NS   |                |                     |              |         |

|                                      |       |        |      |      |      |      |         |
|--------------------------------------|-------|--------|------|------|------|------|---------|
| Position tenure                      | .012  | .102   | NS   |      |      |      |         |
| Career tenure                        | -.093 | -.697  | NS   |      |      |      |         |
| <i>Step 2: Independent Variables</i> |       |        |      | .243 | .194 | .215 | 4.900** |
| Skill variety                        | -.274 | -2.900 | .004 |      |      |      |         |
| Task significance                    | -.141 | -1.604 | NS   |      |      |      |         |
| Task identity                        | -.196 | -2.457 | .015 |      |      |      |         |
| Autonomy                             | -.093 | -1.050 | NS   |      |      |      |         |

**Notes:** NS = Not significant; \*\*  $p < 0.01$ ; \*  $p < 0.05$

**Testing H3a-H3c.** To determine if meaningful work partially mediated the relationships between each job characteristic and dimension of burnout, three separate regressions were run to test each hypothesis. Results for these regressions can be found in Table 5. For each regression, the control variables (age, gender, education, position tenure, and career tenure) were entered in the first step. In the second step, skill variety, task significance, task identity, and autonomy were entered. In the third step, meaningful work entered. The first two steps of each regression were identical to the regressions run for testing H2a-H2c and thus are not included in Table 5.

With exhaustion as the dependent variable, entering meaningful work explained an additional 5.6 percent of the variance over the control variables and job characteristics. Meaningful work had a significant regression coefficient in the expected direction ( $\beta = -.272, p < 0.01$ ). In this equation, the previously significant regression coefficients for skill variety and task identity were reduced to nonsignificance, making hypothesis 2a no longer partially supported. Task significance and autonomy remained nonsignificant. Thus, meaningful work fully mediates the relationship between skill variety and exhaustion. Furthermore, because the relationship task identity and meaningful work was not significant, it cannot be said that meaningful work acts as a mediator between task identity and exhaustion. Thus, hypothesis 3a was only slightly supported.

With cynicism as the dependent variable, entering meaningful work explained an additional 1.4 percent of the variance over the control variables and job characteristics. Meaningful work did not have a significant regression coefficient ( $\beta = -.134$ ). The direct effect of skill variety on cynicism remained significant in this equation ( $\beta = -.345, p < 0.01$ ). No other job characteristics had significant regression coefficients. Thus, no support was present for hypothesis 3b.

With reduced professional efficacy as the dependent variable, entering meaningful work explained an additional 10.4 percent of the variance over the control variables and job characteristics. Meaningful work had a significant regression coefficient in the expected direction ( $\beta = -.369, p < 0.001$ ). In this equation, the previously significant regression coefficient for skill variety was reduced to nonsignificance, cancelling out some evidence for hypothesis 2c, but task identity remained significant in the expected direction ( $\beta = -.155, p < 0.05$ ). Task significance and autonomy remained nonsignificant. Thus, meaningful work fully mediates the relationship between skill variety and reduced professional efficacy. This provides some support for hypothesis 3c.

Table 5

Dependent Variables Regressed on Independent Variables (with Mediator Included)

| Variable   | $\beta$ | t      | p    | R <sup>2</sup> | Adj. R <sup>2</sup> | $\Delta R^2$ | F       |
|--|---------|--------|------|----------------|---------------------|--------------|---------|
| <b>Exhaustion as Dependent Variable</b>                    |         |        |      |                |                     |              |         |
| <i>Step 3: Independent Variables and Mediator</i>          |         |        |      | .158           | .098                | .056         | 2.624** |
| Skill variety  | -.116   | -1.116 | NS   |                |                     |              |         |
| Task significance  | .154    | 1.669  | NS   |                |                     |              |         |
| Task identity  | -.149   | -1.775 | NS   |                |                     |              |         |
| Autonomy   | -.059   | -.632  | NS   |                |                     |              |         |
| Meaningful work  | -.272   | -3.060 | .003 |                |                     |              |         |
| <b>Cynicism as Dependent Variable</b>                      |         |        |      |                |                     |              |         |
| <i>Step 3: Independent Variables and Mediator</i>          |         |        |      | .400           | .354                | .014         | 8.608** |
| Skill variety  | -.345   | -3.775 | .000 |                |                     |              |         |
| Task significance  | -.138   | -1.699 | NS   |                |                     |              |         |
| Task identity  | -.131   | -1.780 | NS   |                |                     |              |         |
| Autonomy   | -.129   | -1.585 | NS   |                |                     |              |         |
| Meaningful work  | -.134   | -1.717 | NS   |                |                     |              |         |
| <b>Reduced Professional Efficacy as Dependent Variable</b> |         |        |      |                |                     |              |         |
| <i>Step 3: Independent Variables and Mediator</i>          |         |        |      | .347           | .299                | .104         | 7.238** |
| Skill variety  | -.140   | -1.508 | NS   |                |                     |              |         |
| Task significance  | -.096   | -1.165 | NS   |                |                     |              |         |
| Task identity  | -.155   | -2.072 | .040 |                |                     |              |         |
| Autonomy   | -.097   | -1.168 | NS   |                |                     |              |         |
| Meaningful work  | -.369   | -4.652 | .000 |                |                     |              |         |

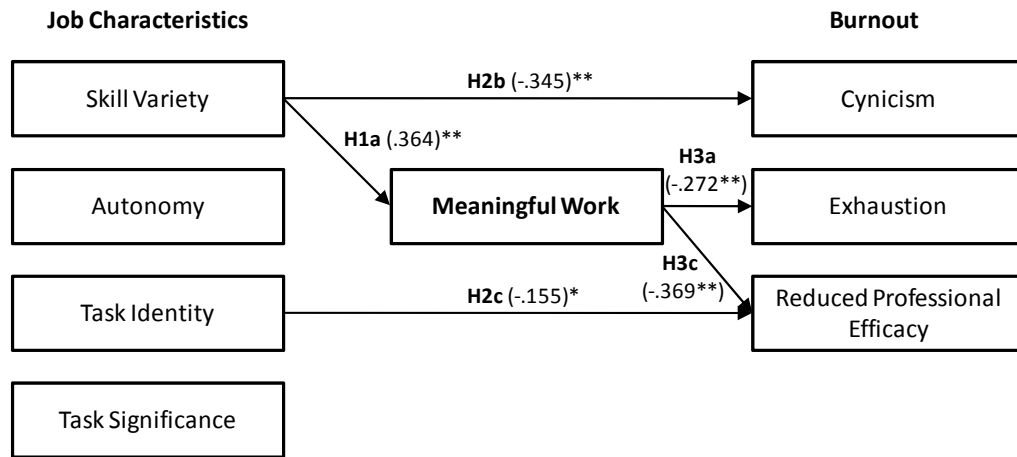
**Notes:** NS = Not significant; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ;  $\Delta R^2$  represents the difference in the variance explained from step 2 to 3.

Discussion

The purpose of the present study was to examine the influence of four job characteristics on meaningful work and the three dimensions of burnout. The findings of this study only supported a small number of the hypotheses but provided some interesting results. A summary of the results are presented in Figure 2.

Figure 2

Summary of Regression Analysis of Job Characteristics, Meaningful Work, and Burnout



Note: \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; numbers in parentheses are regression coefficients ( $\beta$ )

Perhaps most interesting is the lack of a relationship between meaningful work and three out of the four job characteristics. Of the indicator variables examined, meaningful work was significantly influenced only by skill variety. Although all four of these relationships have been argued theoretically (and some shown empirically), it is possible that healthcare workers do not all consider task significance, task identity or autonomy as job characteristics necessary to experience meaningful work. One explanation may be the presence of a moderating variable proposed by Hackman and associates (1975). They posit that job characteristics are perceived as either desirable or threatening depending on the employee's growth need strength. Individuals high in growth need strength have the desire to be stimulated and challenged through work and have strong needs for personal accomplishment (Hackman, et al., 1975). It is possible that some respondents with low growth need strength would find high task significance, task identity and autonomy as unwanted or threatening and perceive their work as less meaningful as a result. Furthermore, despite the lack of a relationship between some of the job characteristics and meaningful work, it was found that meaningful work was significantly negatively related to two of the three dimensions of burnout, enforcing the claim that both psychological states cannot coexist.

Skill variety was found to be the most significant job characteristic overall. Its significant relationships to meaningful work and all three dimensions of burnout (albeit two of them indirectly through meaningful work) suggest that having the opportunity to engage in work that requires the use of a variety of talents and abilities is important to healthcare workers. Because the sample of healthcare workers are highly educated (95% of the sample had a college education or higher), it is likely that when they are required to use of a variety of complex skills on the job, they see their work as a challenge that utilizes their years of education and training, and consequently as more meaningful. The direct relationship between skill variety and cynicism suggests that having the opportunity to conduct complex and challenging work is engaging for those that work in the healthcare field.



Although task identity had no relationship to meaningful work, it was negatively related to reduced professional efficacy. This suggests that having the opportunity to see a tangible result from one's work and complete a task from beginning to end can serve as a means of professional self-assessment, but does not necessarily make one's work meaningful. For example, having the opportunity to deal with a patient all the way from diagnosis to treatment can reaffirm a doctor or nurse practitioner of their professional capabilities, but may not necessarily contribute to one's "connection" with their work (Cartwright & Holmes, 2006).

It is important to note that the four job characteristics examined in this study only explained about 24 percent of the variance in meaningful work. This suggests that there are other important variables that can explain incremental variance in meaningful work. It also implies that there are additional ways in which practitioners and managers can help to facilitate the emergence of meaning at work.

A recently developed framework based on qualitative research indicates that meaningful work can stem from four main categories: developing and becoming self, expressing full potential, unity with others, and serving others (Lips-Wiersma & Morris, 2009). The first two categories can be combined into a broader category of "self" and the second two can be combined into an "other" category. The job dimensions tested in the current study reflect sources in the "self" category. This includes finding meaning in the inherent nature of the work itself. The current findings partially support this portion of the framework and indicate that if less stimulating, repetitive positions are infused with more variety, employees are more likely to experience meaningful work.. It is possible that examining employees' experience *at* work (i.e., experience with coworkers and community), in addition to their experience *of* work (i.e., nature of the tasks performed) would more thoroughly explain how meaningful work arises and how it relates to burnout. This notion is also in accordance with theoretical work by Pratt & Ashforth (2003) who propose that meaning can be found either through one's work role, or through membership with the organization. Finally, if meaningful work can also be fostered through the "at work" or "other" categories, it is likely that burnout can also be combated through promoting rewarding working relationships with together with others, sharing values (with coworkers and the organization), and encouraging feelings of a sense of belonging at work.

### **Limitations and Future Research**

The current study has a number of limitations that should be addressed. First, because the data were cross-sectional, a direction of causality cannot be proven for any of the relationships between the examined variables. Longitudinal or lab research would help to clarify the direction of the relationship between meaningful work and burnout. Furthermore, due to the chosen methodology the data collected are prone to containing a degree of common method variance. One method of alleviating this in future research would be to administer a separate survey asking an unbiased third party sample about the job dimensions of the main sample. Alternatively, resources such as the Dictionary of Occupational Titles (DOT), O\*NET OnLine, or the National Occupation Classification (NOC) provide specific descriptions of common occupations in North America. Examining the nature of the positions of each of the respondents using these resources could help to provide a more objective perspective on the nature of the work.

Another limitation that may have had an impact on the results was that some of the job characteristic and burnout scales had low internal consistency scores (specifically, the scales measuring task identity, autonomy and professional efficacy had Cronbach's Alpha coefficients lower than .65). A

value for Cronbach's Alpha below .70 is considered to be undesirable, and means there is a greater amount of measurement error (Lattin, Carroll, & Green, 2003). In mediation analysis, the presence of measurement error tends to produce and underestimate of the relationship between the mediator and the dependent variable, and an overestimate of the relationship between the independent variable and the dependent variable (Baron & Kenny, 1986). This may be the reason for the lack of support for the relationships between job characteristics and meaningful work, and the strong direct effects of skill variety and task identity on cynicism and reduced professional efficacy, respectively. One potential reason for the low internal consistency reliability was the process of translating, and back-translating the survey. Despite the translation validation, it is possible that some of the item meanings were misconstrued by the respondents.

Finally, the low response rate obtained in the current study created an issue with the generalizability of certain portions of the sample. Specifically, administrative staff were underrepresented in the sample. Completion of the survey was voluntary and it is possible that much of the administrative staff were too exhausted from their work to fill out the survey. Thus, the results obtained may only generalize to administrative staff who are low on burnout.

Future research should consider examining the antecedents of meaningful work from a more holistic perspective by including additional job characteristics and feelings associated with organizational membership. In this way, it may be possible for researchers to uncover new ways of enhancing the positive effects of organizational membership and help reduce burnout. This would be effective in situations where altering employees' job characteristics is not an option.

### **Conclusion**

In sum, skill variety was the only job characteristic found to be positively associated with the experience of meaningful work. Furthermore, direct effects between some job characteristics and dimensions of burnout indicate that meaningful work is not responsible for much of the positive effects of work redesign. Meaningful work was negatively associated with exhaustion and reduced professional efficacy dimensions of burnout, but not with cynicism. Thus, although altering the nature of employees' work can be a potentially fruitful method of enhancing meaning and combating burnout, it is clear that job characteristics do not tell the whole story. Further research is needed to establish a link between other aspects of the work experience such as unity with others at work (or feelings of organizational membership) to fully understand how burnout can be eliminated in the workplace.

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## THE EFFECTS OF SKILL VARIETY, TASK SIGNIFICANCE, TASK IDENTITY AND AUTONOMY ON OCCUPATIONAL BURNOUT IN A HOSPITAL SETTING AND THE MEDIATING EFFECT OF WORK MEANINGFULNESS

In recent years, more people are choosing to search for meaning at work than in any other domain of life (Holbeche & Springett, 2004). Considering most adults spend nearly half of their waking lives at work, this is not surprising (Wrzesniewski, 2003). It would make sense that the activity most individuals fill the majority of their time with should be engaged in only with good reason. Unfortunately, troublesome conditions such as burnout (a syndrome of emotional exhaustion, cynicism, and reduced professional efficacy) are commonplace at work, with severe cases having a prevalence of up to 11% in some “high-risk” occupations, such as those found in the healthcare field (Schaufeli & Buunk, 2002).

The present study adopts the job characteristics model (JCM) and job demands-resources (JD-R) model to explain the relationships between four job characteristics (skill variety, task significance, task identity and autonomy) meaningful work, and burnout (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Hackman, Oldham, Janson, & Purdy, 1975). It is hypothesized that these job characteristics affect employees' experience of meaningful work and all three dimensions of burnout directly, but also affect their experience of burnout indirectly through the experience of meaningful work.

A survey was distributed to a sample of approximately 1100 workers from a Canadian hospital and was administered in the French language. After accounting for a response rate of approximately 16% and missing data, useable data were obtained ranging from 149 to 170 respondents (depending on the variable). The survey measured meaningful work (6 items), job characteristics (four subscales totaling 17 items), burnout (three subscales totaling 16 items), and several control variables (e.g., age, gender, position).

In accordance with Baron and Kenny's (1986) procedure for testing mediation, H1 - H3 were tested by analyzing bivariate correlations and using mediation regression analysis. Results indicated that skill variety was the only job characteristic found to be positively associated with the experience of meaningful work and all three dimensions of burnout. Task identity had a direct effect on professional efficacy but was not associated with meaningful work. Task significance and autonomy had no relationship with meaningful work or any dimension of burnout. Meaningful work was negatively associated with exhaustion and reduced professional efficacy, but not with cynicism.

Thus, although altering the nature of employees' work can be a potentially fruitful method of enhancing meaning and combating burnout, it is clear that job characteristics do not tell the whole story. It is possible that examining employees' experience *at* work (i.e., experience with coworkers and community), in addition to their experience *of* work (i.e., nature of the tasks performed) would more thoroughly explain how meaningful work arises and how it relates to burnout. If meaningful work can also be fostered through the "at work" or "other" categories, it is likely that burnout can also be combated through promoting rewarding working relationships with together with others, sharing values (with coworkers and the organization), and encouraging feelings of a sense of belonging at work. Further research is needed to establish a link between other aspects of the work experience such as unity with others at work (or feelings of organizational membership) to fully understand how burnout can be eliminated in the workplace.