Perception of Work Demands and Resources: Does Sheer Volume Matter?

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Introduction

Using the the job demands-resources theory (Demerouti et al., 2001), transactional theory of stress and coping (Lazarus & Folkman, 1984), and the challenge-hindrance framework (Cavanaugh et al., 2000), we explored whether the amount or volume of perceived resources and demands would be related to three organizational outcomes: engagement ("a positive affective experience defined as a fulfilling, work-related state of mind characterized by vigor, dedication, and absorption," Schaufeli et al., 2002), workplace stress ("an individual state characterized by a combination of high arousal and displeasure," p. 15, Pejtersen et al., 2010) and burnout ("the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work," p. 197, Kristensen et al., 2005).

Hypotheses 1a-1c: Quantity of resources is positively associated with engagement (1a), and negatively associated with stress (1b) and burnout (1c)

Hypotheses 2a-2c: Quantity of challenge demands is positively associated with engagement (2a), and negatively associated with stress (2b) and burnout (2c).

Hypotheses 3a-3c: Quantity of hindrance demands is negatively associated with engagement (3a), and positively associated with stress (3b) and burnout (3c).

Methods

Participants, Procedure, & Materials

A Prolific panel sample initially resulted in 785 respondents, of which 568 were retained after cleaning. 13.57% had been in their job <6 months, 19.20% 6-12 months, 49.12% 1-5 years, 13.27% 5-10 year, and 4.87% >10 years. Mean age was 28.18 years (SD = 7.53). Self-identified gender was largely female (52.58%) or male (46.83%).

An email was sent to eligible Prolific respondents (those 18+ holding either a full-time or part-time job). A ~45 minute survey asked to think about their primary job. The items presented depended on the job characteristics they initially specified. Respondents were asked to report 1) how much a characteristic was a resource, 2) how much each characteristic was a hindrance, 3) how much each item was a challenge. Participants were compensated six dollars.

Characteristics, Demands, and Resources.

Items within O*Net's classifications of "work activity" and "work context" items were used here. We used O*Net's response scales, which all shared the same 1 to 5 scale options. Subsequent to providing ratings of whether or not a characteristic was relevant, respondents rated items in terms of, 1) . . . this aspect of your job is a resource that can be functional in achieving work goals, reduce job demands, or stimulate personal growth/development, 2) . . . this aspect of your job is a challenge that can promote mastery, personal growth, or future gains, and 3) . . . this aspect of your job is a hindrance that can inhibit personal growth, learning, and work goal attainment.

Outcomes of Stress, Burnout, and Engagement.

Three items taken from the Copenhagen Psychosocial Questionnaire (Burr et al., 2019) capture stress. The obtained alpha was .85 in this sample. Four items were taken from the Copenhagen Psychosocial Questionnaire (Burr et al., 2019) to capture burnout. Alpha was 0.85 in this sample. The 18-item engagement measure was recently developed (Russell et al., 2022) to capture engagement. For the purposes of the current study, we focused on an overall engagement score (18 item aggregate, alpha = 0.91).

Results

Correlations, means and standard deviations are presented in Table 1. The results reveal a positive association between resources and engagement (r = .34; H1a), but a lack of meaningful association between resources and stress (H1b) and burnout (H1c). Challenge demands were positively associated with engagement (r = .31; H2a), but were unrelated to stress or burnout (H2b and H2c). Total hindrance stressors were largely not significantly associated with our outcomes, although there was a small-moderate association with stress (H3b; r = .09).

Table 1:
Focal Variable Correlations (Counts Data)

	1	2	3	4	5	M	SD
1. Resource	-					36.02	13.26
2. Hindrance	.23***	-				13.09	13.62
3. Challenge	.86***	.22***	-			35.64	13.63
4. Burnout	.05	.04	.07	-		3.04	0.87
5. Stress	.06	.09*	.08	.70***	-	2.59	0.97
6. Engagement	.34***	.01	.31***	-.35***	-.30***	4.04	0.83

In addition to the above correlations, we also conducted three regression analyses: regressing a) engagement, b) stress, and c) burnout separately onto total resources, challenge and hindrance demands. The total resources were predictive of engagement ($F_{(3,564)}$ = 26.41, p < .001, R^2 = .12), but neither challenge nor hindrance demands predicted engagement; see Table 2.

Table 2:
Regression Predicting Engagement

Predictor	b	95% CI	$t(564)$	p
Intercept	3.28	[3.09, 3.47]	33.93	< .001
Hindrance	0.00	[-0.01, 0.00]	-1.80	.072
Challenge	0.00	[-0.01, 0.01]	0.88	.378
Resource	0.02	[0.01, 0.03]	3.84	< .001

Stress was not predicted by total resources, challenge, or hindrance demands, $F_{(3,564)}$ = 2.47, p = .060, R^2 = .01; Table 3.

Table 3:
Regression Predicting Stress

Predictor	b	95% CI	$t(564)$	p
Intercept	2.38	[2.15, 2.62]	19.80	< .001
Hindrance	0.01	[0.00, 0.01]	1.82	.070
Challenge	0.01	[0.00, 0.02]	1.43	.152
Resource	0.00	[-0.02, 0.01]	-0.77	.440

Similarly, burnout was not predicted by total resources, challenge, or hindrance demands, $F_{(3,564)}$ = 1.10, p = .349, R^2 = .01; See Table 4.

Table 4:
Regression Predicting Burnout

Predictor	b	95% CI	$t(564)$	p
Intercept	2.90	[2.68, 3.11]	26.89	< .001
Hindrance	0.00	[0.00, 0.01]	0.67	.502
Challenge	0.01	[0.00, 0.02]	1.19	.233
Resource	0.00	[-0.01, 0.01]	-0.52	.601

Discussion

The major goal of this paper was to further explore the relationships among *total* perceived challenge demands, hindrance demands, and resources and outcomes of engagement, stress, and burnout. The results suggest a positive relationship between both resources and engagement (H1a) and challenge demands and engagement (H2a). Employers would benefit from understanding that at least the perception of having "more" resources and more challenge demands in a job is highly associated with reported engagement. While not a causal relationship, it points to the potential value of these kinds of employee support nonetheless.

Limitations & Future Directions. Future studies could consider additional or other O*Net items, *kinds* of resources or challenges, additional outcomes (e.g., job satisfaction), or whether volume of resources and demands operationalized in this way are related to other behaviors. Finally, there was a moderate relationship between challenges and hindrances, which may be driven by job complexity - with more job elements comes increased opportunities for those elements to be perceived as resources, challenges, or hindrances.

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