Direct and Interaction Effects of Challenge and Hindrance Stressors Towards Job Outcomes

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Abstract

Recently, studies have shown the positive (challenge) and negative (hindrance) nature of stressors can influence job outcomes in opposite directions. However, no study has explored the interaction effects of these stressor dimensions on each other. The direct and interaction effects were tested with two studies: (1) 100 blue collar workers from a single organization, and (2) 275 Maori (the indigenous people of New Zealand) employees from a variety of professions and industries. Study 1 found support for the direct effects towards employee loyalty and organizational commitment, and this was also supported in study 2 towards perceived organizational support and job satisfaction. In study 2, only hindrance stressors predicted employee loyalty. Overall, three significant interaction effects were found towards employee loyalty (in both studies) and perceived organizational support, with respondents with high challenge stressors and low hindrance stressors reporting the highest levels of job outcomes. These findings support the interplay between stressors and highlight the benefits for organizations in seeking to address enhanced challenge stressors while also minimizing hindrance stressors.

Keywords: stressors, challenge, hindrance, job outcomes, interactions; New Zealand.

Introduction

Work-related stress represents a widespread global phenomenon, which has been shown to generate a range of consequences for workers and employers alike. For example, Farber (1983) documents the potential for human burnout as a result of work-related stress in service occupations. In contrast, the literature also indicates the potential emergence of positive occupational stress-related outcomes. For instance, in a study of 696 learners, LePine, LePine and Jackson (2004) found that stress associated with challenges in the learning environment (challenge stressors) had a positive relationship on learning performance, while stress associated with hindrances in the learning environment (hindrance stressors) exerted a negative relationship on learning performance. Despite the findings of stressors being positive and negative towards outcomes, no study has explored their potential interaction effects on each other and we test this effect towards a number of job outcomes across two distinct samples. Overall, we find support for the effect that while challenge stressors are positively related and hindrance stressors negative related to job outcomes combined the detrimental effects of hindrance stressors can be buffered by challenge stressors. The implications are that developing challenge stressors may directly and indirectly benefit employees, especially for those facing high hindrance stressors from their job.

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Stressors

Lazarus and Folkman (1984: 12) defined stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being". Stress is an individual's psychological response to a situation where there is something at stake for the individual and where the situation taxes or exceeds the individual's capacity of resources (LePine et al., 2004). Stress thus reflects a subjectively laden, emotional response to a situation which is evaluated as either potentially challenging (positive), or harmful (negative), with psychological responses typically characterized by heightened levels of information processing focused on appraising and coping with the particular situation.

Application of stress to organizational settings has led to the development of the concept of work stressors, which have been defined as stressful job conditions (Jex, Bliese, Buzzell & Primeau, 2001), which may serve as antecedents to the development of individuals' occupational stress levels. Ultimately, such stressors may serve to affect outcomes including job performance (Beehr, Jex, Stacy & Murray, 2000), employee loyalty and perceived organizational support (Haar, 2006), and job satisfaction (Cavanaugh, Boswell, Roehling, & Boudreau, 2000). These later stressor outcomes based on social exchange theory (Haar, 2006), are of importance due to their influence on employee retention (Heskett, Jones, Loveman, Sasser & Schlesinger, 2008). As such, the present study similarly focuses upon social exchange related outcomes.

Despite theoretical advancements, inconsistent empirical results on the relationship between stressors, stress and job outcomes including job satisfaction and support perceptions have generated a need for additional insights in this area (e.g. LePine et al., 2004, LePine, Podsakoff & LePine, 2005). However, while a u-shaped relationship has been hypothesized where it is suggested stress is beneficial towards job outcomes (e.g. performance), although only to a point, and then becomes detrimental (e.g. Yerkes & Dodson, 1908; LePine et al., 2004; Gilboa, Shirom, Fried, & Cooper, 2008), there is a lack of empirical support of this type of relationship (Lienert & Baumler, 1994; Westman & Eden, 1996). One alternative explanation for the mixed empirical results observed for the work-related stressors, stress and job outcomes relationship is that the relationship may depend on the nature of the stressors (Jex, 1998; LePine et al., 2004). For instance, negative relationships have been reported between stress and job-related outcomes associated with stressors such as role ambiguity and role conflict (Beehr et al., 2000; Gilboa et al., 2008), while positive relationships may be observed for workload-related stressors (e.g. high perceived levels of responsibility) and performance (Dollard, Winefield, Winefield & De Jonge, 2000). Similarly, the eustress/distress typology offers eustress as stress resulting from perceived challenge and feelings of fulfillment or achievement (Selye, 1982), thus representing a positive, motivating force. Conversely, distress is thought to occur as an outcome of a worker's perceived negative burden of work-related activity and links to negative job outcomes. Importantly, this has been supported empirically, specifically through challenge and hindrance stressors (e.g. Cavanaugh et al., 2000; Haar, 2006; LePine et al., 2004).

Challenge stressors refer to positively-perceived challenges in the workplace generating feelings of achievement and fulfillment, and link positively with job outcomes, such as higher job satisfaction and performance (LePine et al., 2005; Cavanaugh et al., 2000). Examples of challenge stressors include high levels of job-related responsibility, opportunities for personal growth and task accomplishment. Alternatively, hindrance stressors refer to negatively-perceived impediments in the workplace, which may contribute to the development of

occupational distress, and link negatively with job outcomes, such as lower job satisfaction (Cavanaugh et al., 2000) and employee loyalty (Haar 2006). Examples of hindrance stressors include a perceived lack of performance guidance, role ambiguity, role conflict and adverse internal politics (Podsakoff, LePine, & LePine, 2007). Based on this two-dimensional perspective, occupational stress tends to be distinguished as to whether it is appraised as promoting (challenge, i.e. positive) or hindering (hindrance, i.e. negative) personal growth, mastery, or future gains (Folkman & Lazarus, 1985). As a result, work stressors may be either positive, negative, or non-existent (null), depending on its nature and the degree experienced by an employee in a given work situation.

Cavanaugh et al. (2000) suggest that differential attitudinal and behavioral work outcomes may occur from specific stressors (challenge or hindrance); while Jex et al. (2001) found that any type of stressor is reliably associated with adverse employee reactions. Podsakoff et al. (2007) report that employees' perceived challenge and hindrance stressors alike may contribute not only to job-related stress, but also to job-related strain, which was found to impact negatively on job satisfaction. This is due to the psychological process of cognitive appraisal, which refers to an individual's evaluative process of categorizing an encounter, with respect to its significance for wellbeing (Lazarus & Folkman, 1984). Stress appraisals include 'harm/loss' resulting from past stress-based experiences, 'threat' resultant from potential future stress-based experiences, and challenge which while similar to threat, is also focused on evaluations of future stress-based experiences.

However, in contrast to threat which is focused on evaluations of future harm or loss, challenge is focused on potential gain or growth obtained from an encounter (Lazarus & Folkman, 1984). The specific outcomes of the cognitive appraisal process may differ as a function of the type of stressor (i.e. challenge or hindrance) and the way it is appraised (Podsakoff et al., 2007). Specifically, in contrast to hindrance stressors, appraisals of challenge stressors typically result in positive emotions and attitudes (Boswell, Olson-Buchanan & LePine, 2004; Podsakoff et al., 2007). Consequently, while although both challenge and hindrance stressors may cause job-related stress, the evoked positive affective responses resulting from challenge stressors should more than offset any negative effects that occur through perceived strain (Podsakoff et al., 2007). Positive emotions including joy, interest and contentment may serve to broaden an individual's momentary thought-action repertoire, which in turn builds the individual's physical, intellectual and/or social resources (Fredrickson, 1998) which may be used in the coping with relevant work-related stress appraisals.

Importantly for the current research, Folkman and Lazarus (1985) posit that specific appraisal types (e.g. threat or challenge) may also occur simultaneously thus potentially contributing to the multi-faceted stress concept concurrently. Threat and challenge appraisals in particular may call for an individual to engage in coping activities to master the psychological impact of these respective appraisal forms (Lazarus & Folkman, 1984), although individual differences may engender divergent cognitive, emotional and/or behavioral outcomes of focal stressor types (Folkman & Lazarus, 1985). While challenge and hindrance stressors have been addressed in previous research, insights into the nature and magnitude of any interaction effects between these types of stressors have not been explored. Further investigation into this area is thus needed to generate a more in-depth understanding of the dynamics pertaining to specific work-related stressor types. For example, do challenge and hindrance stressors interact with each other creating an overall detrimental influence, or do challenge stressors still positively influence outcomes even when hindrance stressors are present?

The next section outlines social exchange theory and the associated outcomes tested in the present study, and then proceeds to develop the interaction hypotheses where we suggest challenge and hindrance stressors may interact with each other. There are then tested on two diverse samples in a New Zealand context. While past research has focused on challenge and hindrance stressors in samples of managers (Cavanaugh et al., 2000) or office workers (Haar, 2006), the present study focuses on (1) blue collar workers and (2) indigenous employees, to provide insights by exploring effects of results on two distinct employee samples.

Social Exchange Theory & Hypotheses

Social exchange theory posits that all human relationships are formed by the use of a subjective cost/benefit analysis and the comparison of alternatives (Blau, 1964). Social behavior may be viewed as an exchange of physical and/or intangible goods, such as the symbols of approval or prestige (Thibaut & Kelley, 1959). Under social exchange theory, individuals who give to others are predicted to attempt to get from them in return, while individuals who receive from others are under pressure to give in reciprocation (Homans, 1958; Thibaut & Kelley, 1959). This bilateral process of influence typically results in a particular balanced state of equilibrium in exchange. For an individual in an exchange, what they give may be perceived as a cost, while what is received may be viewed as a reward, and the individual's behavior changes less as the difference between the two (i.e. profit) is maximized (Homans, 1958). Furthermore, under Siegrist's (1998) effort-reward imbalance model emotional distress and adverse health effects may occur when there is an imbalance between efforts and occupational rewards.

Applying social exchange theory to work-related challenge and hindrance stressor types, Haar (2006) asserts that employees are expected to trade their work-related efforts for the promise of future rewards. Social exchange theory also predicts that employees experiencing negative and/or distressing workplace conditions are thought to reciprocate with negative work attitudes, while those perceiving workplace conditions as challenging and positive are predicted to reciprocate with positive work attitudes (Haar, 2006). Overall, the influence of challenge stressors (positively) and hindrance stressors (negatively) on social exchange related outcomes has been supported (e.g. Bingham, Boswell & Bourdreau, 2005). The social exchange outcomes tested in the present study are explored below.

Employee Loyalty

Employee loyalty is defined as an employee's identification with and allegiance to organizational leaders and the organization as a whole, transcending the parochial interests of individuals, work groups, and departments (Graham, 1991). Representative behaviors include defending the organization against threats; contributing to its good reputation, and co-operating with others to serve the interests of the whole. The construct of loyalty is viewed as a constituent of organizational citizenship behaviors (Graham, 1991; Rusbult, Farrell, Rogers & Mainous, 1988). Based on Graham's (1991) definition, an employee's sense of organizational identification, or sense of 'oneness' with the organization, in implicit in the loyalty concept. Further, employee loyalty comprises both an attitudinal and a behavioral component, which may be likely to correspond to one another in terms of nature/direction and size of effects, although divergences may be observed (Rusbult et al., 1988).

In his study of New Zealand Government workers, Haar (2006) found a significant and positive relationship between challenge stressors and employee loyalty, whilst hindrance stressors were found to exhibit a significant negative influence. These findings concur with those addressed regarding the cognitive appraisal process discussed earlier, which stated that in contrast to hindrance stressors, appraisals of challenge stressors typically result in positive emotions and attitudes (Boswell et al., 2004; Podsakoff et al., 2007). Furthermore, Boswell et al. (2004) found challenge stressors to be positively linked to loyalty, while hindrance stressors were negatively linked to loyalty. As such, workers who report challenging aspects in their job are likely to reciprocate with positive feelings of loyalty, while conversely; negative work-related aspects are predicted to generate reduced feelings of reciprocity and thus, diminished loyalty with employee loyalty being defined as giving support for their organization (Haar, 2006). This leads to our first hypothesis.
Hypothesis 1: (a) Challenge stressors will be positively related, and (b) hindrance stressors will be negatively related, to employee loyalty.

Organizational Commitment

Organizational commitment can relate to the emotional bond an employee has with their organization (Mowday, Porter, & Steers, 1982). Meyer, Allen and Smith (1993) noted that employees whose organizational experiences are consistent with their expectations and needs tend to build a stronger affective attachment to their organization. The construct of organizational commitment, in contrast to employee loyalty, reflects an employee's psychological attachment to the organization (O'Reilly & Chatman, 1986; Meyer & Allen, 1991) and in the present study we define organizational commitment as "the emotional bond an employee has with an organization" (Haar & Spell, 2004, p. 1042).

There are strong links between employee loyalty and organizational commitment, with Coughlan (2005) asserting that some authors use the terms loyalty and commitment interchangeably (e.g. Atwater, Waldman, Atwater, & Carder, 2000; Bhappu, 2000). This is because they both relate to feelings about the organization. However, Jaros, Jermier, Koehler and Sincich (1993) suggested that loyalty and commitment are similar when considering an attitude about the organization and a set of behaviors, but are distinct. While empirical tests of challenge and hindrance stressors have not been undertaken towards organizational commitment, the similarities between employee loyalty and organizational commitment, and the established links between challenge and hindrance stressors and loyalty (Haar, 2006), suggests similar effects are to be found. This leads to our next hypothesis.
Hypothesis 2: (a) Challenge stressors will be positively related, and (b) hindrance stressors will be negatively related, to organizational commitment.

Perceived Organizational Support

Perceived organizational support refers to employee beliefs of how much their organization values them and cares about their well-being (Eisenberger, Huntington, Hutchison & Sowa, 1986). High levels of perceived organizational support tend to be synonymous with high employee contentment (Haar, 2006). Positive linkages between an employee's perceived level of organizational support and loyalty have also been identified in the literature (Rusbult et al., 1988; Haar, 2006). While Jones, Flynn and Kelloway (1995) identified a negative relationship between workplace stress and perceived organizational support, no conceptual distinction was

made in their research regards the specific type of stressor (i.e. challenge or hindrance stressor). This distinction was, however, made by Haar (2006), who found a significant, positive relationship between challenge stressors and perceived organizational support and a significant negative association between hindrance stressors and perceived organizational support. We expect these effects to hold in the current study.
Hypothesis 3: (a) Challenge stressors will be positively related, and (b) hindrance stressors will be negatively related, to perceived organizational support.

Job Satisfaction

Job satisfaction is defined as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience (Locke, 1976). Previous research indicated a negative association between job-related stressors and job satisfaction (e.g. Gupta & Beehr, 1979). Hence, workers who feel their job is detrimental and negative are less likely to be satisfied with their job. Distinguishing between challenge and hindrance stressor dimensions, Cavanaugh et al. (2000) found that hindrance stressors were significantly and negatively related to job satisfaction, whilst challenge stressors associated positively with this construct. As a result, employees experiencing significant levels of hindrance stressors feel encouraged to reciprocate with lower job satisfaction levels and this reciprocity is the reverse when stressors are viewed positively. Consequently, we hypothesize that challenge stressors will be positively related to job satisfaction, while the converse is tested for hindrance stressors.
Hypothesis 4: (a) Challenge stressors will be positively related, and (b) hindrance stressors will be negatively related, to job satisfaction.

Interaction Effects

While research on challenge and hindrance stressor dimensions has been tested on job outcomes, including social exchange related outcomes, what has been overlooked is the potential influence of one type of stressor interacting on the other. Boswell et al. (2004) stated that "in addition to gaining a better understanding of why perceived stressors may lead to desirable work outcomes, it is also important to investigate whether the relation depends on some other factor" (p. 169). The present study suggests the links between focal stressors and outcomes may be better understood by testing the effects of one stressor as a potential moderator on the other (e.g. hindrance on challenge). Previous research has examined the interacting effects on specific stressor types (typically hindrance type stressors), including the impact of hardiness (Westman, 1990), thinking styles (Abraham, 1997), job control (Boswell et al., 2004) and self-efficacy (Jex & Bliese, 1999). Overall, these studies show that interaction effects are well supported and can provide clearer insights into how stressors influence job outcomes. Indeed, while Folkman and Lazarus (1985) posited positive and negative stressors may also occur simultaneously, no study has tested how they might interact with each other.

The work-family literature has suggested that positive roles might also buffer the negative influence of roles (Greenhaus & Powell, 2006), by positive effects compensating for negative experiences by seeking gratification from the other role. Gareis, Barnett, Ertel and Berkmen (2009) assert that positive aspects might allow the employee to "thrive in the face of risk" (p. 697), thus reducing the strength of conflict by redefining threats as non-threats. Within the stressors context, this might be the positive influence of challenge stressors is such that its

positive influence on job outcomes is when there is also low levels of hindrance stressors, with employees also reporting high hindrance stressors likely to report lower increases in job outcomes when challenge stressors are high.

The present study hypothesizes that hindrance stressors will reduce the positive influence of challenge stressors towards job outcomes, such that high hindrance stressors will benefit least from challenge stressors compared to respondents with low hindrance stressors. This corresponds with the 'undoing hypothesis' by Fredrickson (2001) and colleagues (2000) that suggests that positive emotions may serve to 'undo' or nullify the cardiovascular after-effects of negative emotions. The undoing hypothesis fits within Fredrickson's (2001) 'broaden-and-build' theory of positive emotions, which posits that while negative emotions have a tendency to narrow individuals' thought-action repertoires by calling forth specific action tendencies (e.g. attack, flee), many positive emotions *broaden* individuals' thought-action repertoires, prompting them to pursue a wider range of thoughts and actions than is typical (e.g. play, explore). As such, employees with high levels of challenge stressors may be able to generate broader range of job-related actions and behaviors, which may contribute to enhanced job-related outcomes relative to those with higher levels of hindrance stressors. Consequently, employees with high levels of challenge stressors may be able to outweigh the detrimental effect of negative stressors and thus still report positive job outcomes compared to other workers with only low challenge stressors. This leads to our last set of hypotheses.
Hypothesis 5: Challenge stressors will significantly interact with hindrance stressors towards (a) employee loyalty, (b) organizational commitment, (c) perceived organizational support, and (d) job satisfaction, with effects showing that the highest job outcomes are achieved by employees with high challenge stressors and low hindrance stressors.

Method

Sample and Procedures

We undertook two studies in New Zealand to test the direct and interaction effects hypothesized. Study one was undertaken in a large metropolitan city of New Zealand from a single organization involved in a range of industries, including primary products, construction, un/skilled labor, and other related work. All workers in the sample were blue-collar employees, who typically worked outdoors. Jobs commonly included manual labour (e.g. heavy lifting) and skilled labour (e.g. machinery). From 180 workers, 100 responses were received (56% response rate). On average, participants were 41 years old, male (89%), parents (74%), with a wide range of ethnicities: 42% New Zealand European (white), 28% Pacific Islanders, 22% Maori, 5% Indian and 3% Chinese.

Study two involved surveying Maori employees (the indigenous people of New Zealand). As Maori make up only 13% of the New Zealand workplace, purposive sampling was undertaken. We also improved the methodology by collecting data in two waves: survey one (predictors) followed by survey two (outcomes) one month later. From a total pool of 600 potential respondents, matched surveys were returned by 275 respondents (45.8% response rate). Respondents ranged across a variety of industries, with an average age of 38.7 years (SD=11.3), and the majority being parents (69%) and female (65%). We tested a range of job outcomes between the two studies to aid generalizing the findings.

Measures (Study 1)

Challenge stressors and *hindrance stressors* were measured using an 11-item scale developed by Cavanaugh et al. (2000). Questions followed the stem "Things that cause you stress" and were coded 1=no stress, 5=great deal of stress. Sample questions include "The number of projects and/or assignments I have" (challenge stressor), and "The amount of red tape I need to go through to get my job done" (hindrance stressor). Previous studies have supported the two dimensions (e.g. Cavanaugh et al., 2000; Haar, 2006) and we also find support for a two factor measure (eigenvalues 2.29 and 2.01, accounting for 38.2% and 33.4% of the variance respectively). Challenge stressors had a Cronbach's alpha of .75 and hindrance stressor had a Cronbach's alpha of .80.

Employee Loyalty was measured using the ten-item measure by Rusbult et al. (1988), coded 1=strongly disagree, through to 5=strongly agree. Sample questions include "I will say good things about this organization even when other people criticize it", and "I sometimes wear clothing (tie, pin, jacket, etc.) that bears the organization's symbol or insignia (or I would do so if my organization had such clothing)". This scale had a Cronbach's alpha of 0.91.

Organizational Commitment was measured using 6-items of Meyer et al.'s (1993) subscale of organizational commitment towards affective commitment. Responses were coded 1=strongly disagree to 5=strongly agree. A sample item is "I do not feel "emotionally attached" to this organization" (reverse coded). This scale had a Cronbach's alpha of 0.78.

Measures (Study 2)

Challenge stressors and *hindrance stressors* were measured using the 11-item scale used in study 1 (Cavanaugh et al., 2000). The two factor solution was confirmed with factor analysis (eigenvalues 4.130 and 2.820, accounting for 37.5% and 25.6% of the variance respectively). Challenge stressors had a Cronbach's alpha of .90 and hindrance stressor had a Cronbach's alpha of .80.

Employee Loyalty was measured using a short version of Rusbult et al. (1988) used in study 1, coded 1=strongly disagree, through to 5=strongly agree. Four items were used, and the scale had a Cronbach's alpha of 0.70.

Perceived Organizational Support was measured using a ten-item scale developed by Eisenberger et al. (1986), which was coded 1=strongly disagree, through to 5=strongly agree. Questions included "The organization really cares about me" and "The organization strongly considers my goals and values". This scale had a Cronbach's alpha of 0.92.

Job Satisfaction was measured using 3-items from Judge, Bono, Erez and Locke (2005), coded 1=strongly disagree, through to 5=strongly agree. A sample question is "Most days I am enthusiastic about my work". This scale had a Cronbach's alpha of 0.83.

Control Variables

A number of demographic variables were controlled for which may have a potential influence on employees' perceived stressors, which are widely-used in the stress and conflict literature (Anderson, Coffey & Byerly, 2002; Major, Klein & Ehrhart, 2002). These were *Age* (in years), *Gender* (female=1, male=0), *Parental Status* (1= parent, 0=no dependents), and *Hours Worked* (total hours per week including overtime).

Data Analysis

The skewness and kurtosis scores for the present study's predictor and outcomes variables were all well within acceptable limits. To examine the direct effects of challenge and hindrance stressors (hypotheses 1-2) and the indirect effects of these two stressors on outcomes (hypothesis 3), separate hierarchical regressions were conducted with outcomes: employee loyalty and organizational commitment (study 1) and employee loyalty, perceived organizational support and job satisfaction (study 2). Step 1 contained the control variables (age, gender, parental status, and hours worked). The predictor variables (challenge stressors and hindrance stressors) were entered in Step 2. Step 3 had the interaction effects (challenge stressors multiplied by hindrance stressors). Mean centering of the interaction terms was done to address issues of multi-collinearity (Aiken & West, 1991). Following discussions regarding relaxing the criteria for determining significant interaction effects (Aguinis & Stone-Romero, 1997; Stone & Hollenbeck, 1989), a level of $p < .1$ was adopted for interaction effects on study 1 (due to its smaller sample size), and $p < .05$ for all direct effects (both studies).

Results

Descriptive statistics for the study variables are shown in Table 1 (study 1) and Table 2 (study 2).

Table 1: Correlations and Descriptive Statistics of the Study 1 Variables

Variables	M	SD	1	2	3	4	5	6
1. Age	40.9	11.4	--					
2. Hours Worked	50.1	6.5	.23*	--				
3. Employee Loyalty	3.3	.91	-.23*	-.09	--			
4. Organizational Commitment	3.0	.60	-.04	-.17	.62**	--		
5. Challenge stressors	2.7	.76	-.01	.26**	.24*	.25†	--	
6. Hindrance stressors	2.8	1.1	.07	.26**	-.37**	-.45**	.40**	--

N=100. †p< .1, *p<.05, **p<.01

Table 2: Correlations and Descriptive Statistics of the Study 2 Variables

Variables	M	SD	1	2	3	4	5	6	7
1. Age	38.7	11.3	--						
2. Hours Worked	40.2	9.7	.30**	--					
3. Employee Loyalty	3.7	.78	.01	.02	--				
4. Perceived Organizational Support	3.7	.79	.04	.07	.55**	--			
5. Job Satisfaction	3.2	.76	-.03	-.05	.50**	.26**	--		
6. Challenge stressors	2.8	.88	.08	.26**	-.05	.00	-.17**	--	
7. Hindrance stressors	2.6	.91	.22**	.15*	-.45**	-.31**	-.33**	.40**	--

N=275. *p<.05, **p<.01

Table 1 shows that for study 1, challenge stressors is significantly correlated with hindrance stressors (r= .40, p< .01), employee loyalty (r= .24, p< .05), organizational commitment (r= .25, p< .1), and hours overtime worked (r= .26, p< .01). Hindrance stressors are significantly correlated with employee loyalty (r= -.37, p< .01), organizational commitment (r= -.45, p< .01), and hours overtime worked (r= .26, p< .01). Finally, employee loyalty is significantly correlated with organizational commitment (r= .62, p< .01). Table 2 shows that for study 2, challenge stressors is significantly correlated with job satisfaction only (r= -.17, p< .01) and this direction is unexpectedly negative. It does not correlate significantly with the other two job outcomes. Hindrance stressors are significantly correlated with employee loyalty (r= -.45, p< .01), perceived organizational support (r= -.31, p< .01), job satisfaction (r= -.33, p< .01) age (r= .22, p< .010 and hours worked (r= .15, p< .05). As expected, the three job outcomes are all significantly related to each other (all .25< r < .55, all p< .01).

Results of the hierarchical regressions for direct and indirect effects towards job outcomes (Hypotheses 1 to 3) are shown in Tables 3 and 4.

Table 3: Challenge and Hindrance Stressors towards Job Outcomes (Study 1)

Variables	**Employee Loyalty**			**Organizational Commitment**		
	Step 1 Controls	Step 2 Predictors	Step 3 Interaction	Step 1 Controls	Step 2 Predictors	Step 3 Interaction
Age	-.28	-.18	-.17	-.11	-.05	-.05
Gender	-.10	-.05	-.03	-.07	.03	-.01
Parental Status	.14	.03	.03	.15	.04	.05
Hours Worked	-.04	-.02	-.06	-.19	-.15	-.13
Challenge Stressors		.46***	.47***		.51***	.49***
Hindrance Stressors		-.56***	-.59***		-.62***	-.60***
Challenge Stressors x Hindrance Stressors			-.13†			-.11

R^2 change	.06	.29***	.02†	.05	.39***	.01
Total R^2	.06	.35	.37	.05	.44	.45
Adjusted R^2	.02	.31	.32	.00	.38	.38
F Statistic	1.378	7.889***	7.153***	.688	6.712***	5.915***

†p< .1, *p<.05, **p<.01, p< .001. Standardized regression coefficients, all significance tests were single-tailed.

Table 4: Challenge and Hindrance Stressors towards Job Outcomes (Study 2)

Variables	Employee Loyalty			Perceived Organizational Support			Job Satisfaction		
	Step 1 Controls	Step 2 Predictors	Step 3 Interaction	Step 1 Controls	Step 2 Predictors	Step 3 Interaction	Step 1 Controls	Step 2 Predic-tors	Step 3 Interac-tion
Age	-.05	.03	.02	-.01	.11	.11	.06	.14	.15
Gender	-.11	-.11	-.11	-.02	-.01	-.01	-.01	.02	.02
Parental Status	.12	.12	.11	.07	.06	.05	-.04	-.02	-.02
Hours Worked	-.04	.00	-.01	.01	.02	.01	.04	.06	.07
Challenge Stressors		-.06	-.06		.12*	.12*		.16*	.16*
Hindrance Stressors		-.34***	-.36***		-.55***	-.57***		-.46***	-.44***
Challenge Stressors x Hindrance Stressors			.11*			.11*			-.08
R^2 change	.02	.13***	.01†	.00	.25***	.01*	.01	.16***	.01
Total R^2	.02	.15	.16	.00	.26	.27	.01	.17	.17
Adjusted R^2	.01	.13	.14	.00	.24	.25	.00	.14	.14
F Statistic	1.565	7.291***	6.796***	.275	14.151***	12.848***	.257	6.081***	5.378***

†p< .1, *p<.05, **p<.01, p< .001. Standardized regression coefficients, all significance tests were single-tailed.

Direct Effects

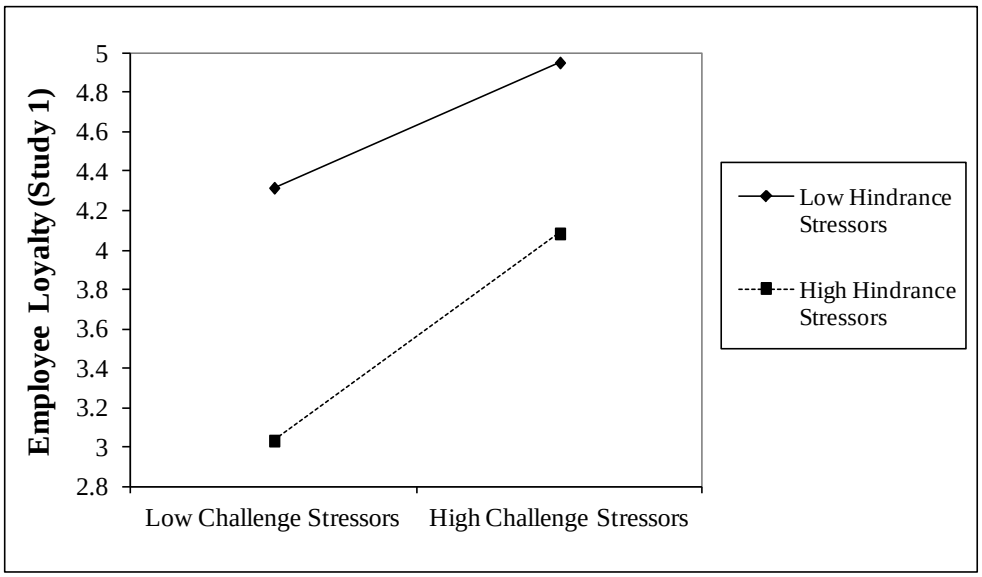
Table 3 shows that for study 1, both challenge and hindrance stressors predicted employee loyalty in the expected directions, with challenge stressors being positively associated (ß= .46, p< .001) and hindrance stressors being negatively associated (ß= -.56, p< .001). Step 2 change shows that the two types of stressors account for a large 29% of the variance towards employee loyalty. Towards organizational commitment, similarly, challenge stressors (ß= .51, p< .001) and hindrance stressors (ß= -.62, p< .001) predict in the expected directions. Similarly, Step 2 change shows that the two types of stressors account for a large 39% of the variance towards organizational commitment. Consequently, there is support for Hypotheses 1 and 2 from study 1. Table 4 shows that for study 2, while hindrance stressors predicted employee loyalty in the expected directions (ß= -.34, p< .001), challenge stressors was non-significant. Step 2 change shows that the two types of stressors account for a modest 13% of the variance towards employee loyalty. Towards perceived organizational support, challenge stressors (ß= .12, p< .05) and hindrance stressors (ß= -.55, p< .001) both predict in the expected directions, and from Step 2 change, it is shown that these stressors account for a large 25% of the variance. Similarly, towards job satisfaction, challenge stressors (ß= .16, p< .05) and hindrance stressors (ß= -.46, p< .001) both predict in the expected directions and

account for a modest 16% of the variance (Step 2 change). Overall, there is support for Hypothesis 1b only from study 2 and support for Hypotheses 3 and 4 from study 2. Overall, the hypotheses of the direct effects of stressors to outcomes were broadly supported.

Interaction Effects

Tables 3 and 4 show support for a number of interaction effects between the two stressor dimensions, with study 1 hindrance stressors interacting significantly with challenge stressors towards employee loyalty (ß= -.13, p< .1), accounting for an additional 2% variance (p< .1). In study 2, there are similar significant interaction effects towards employee loyalty (ß= -.11, p< .05), accounting for an additional 1% variance (p< .1), and perceived organizational support (ß= -.11, p< .05), accounting for an additional 1% variance (p< .05). To facilitate interpretation of the significant interaction effects, interactions are presented in Figures 1-3.

Figure. 1 Interaction between Stressors with Loyalty (Study 1) as Dependent Variable



Plotting the interaction terms (Figure 1) illustrates that in study 1 when challenge stressors are low; there is a significant difference between respondents, with those registering high levels of hindrance stressors reporting much lower levels of employee loyalty than those respondents with low levels of hindrance stressors. When we compare these to respondents with high challenge stressors, there is an increase in employee loyalty for all respondents as expected. However, those with high hindrance stressors still report significantly lower levels of employee loyalty than those with high challenge stressors, supporting the interaction effect hypothesis 5a.

The interaction terms for study 2 (Figures 2 and 3) are similar and are discussed together. At low levels of challenge stressors, higher job outcomes (employee loyalty and perceived organizational support) are reported by respondents with low hindrance stressors compared to respondents with high hindrance stressors. At high levels of challenge stressors these effects remain relatively stable, with respondents with low hindrance stressors still reporting levels of job outcomes superior to respondents reporting high levels of hindrance stressors. Overall, this supports the interaction effect hypothesis and combined provides support for Hypotheses 5a and 5c.

Figure. 2 Interaction between Stressors with Employee Loyalty (Study 2) as Dependent Variable

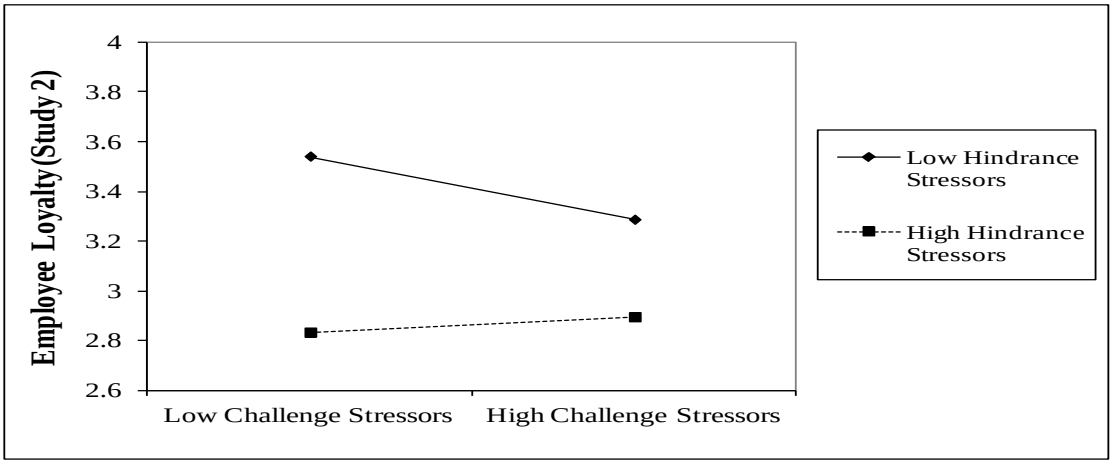
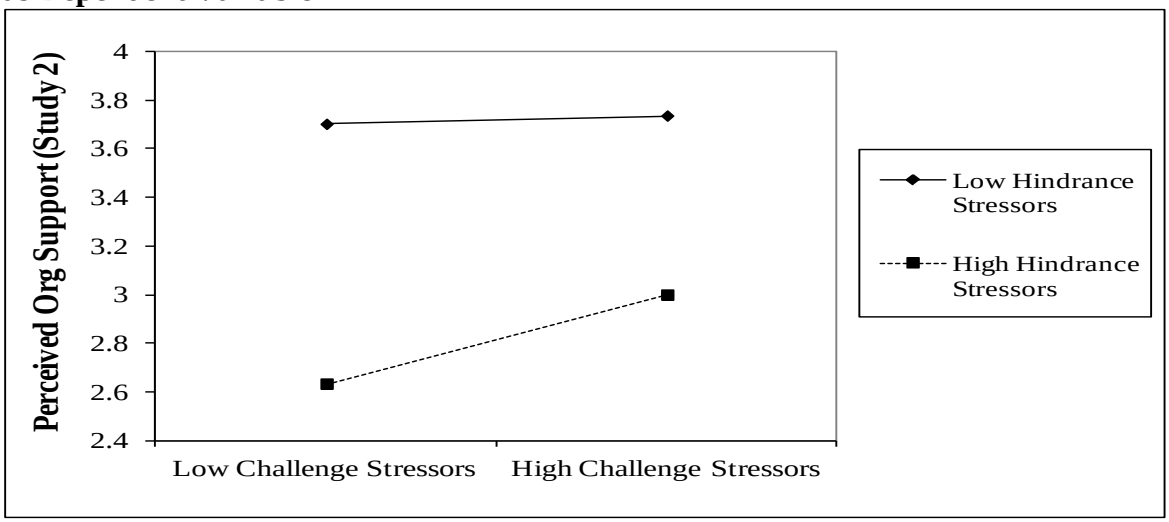


Fig. 3 Interaction between Stressors with Perceived Organizational Support (Study 2) as Dependent Variable



The overall strength of the models are significant and substantial in study 1: employee loyalty (R^2 = .374, F = 7.153, p< .001) and organizational commitment (R^2 = .45, F = 5.915); and in study 2: employee loyalty (R^2 = .16, F = 6.796, p< .001), perceived organizational support (R^2 = .27, F = 12.848, p< .001), and job satisfaction (R^2 = .17, F = 5.378, p< .001). Finally, the variance inflation factors (VIF) were examined for evidence of multicollinearity, with Ryan (1997) suggesting multicollinearity can be detected when the VIF values equal 10 or higher. However, all the scores for the regressions were below 1.4 (study 1) and 1.6 (study 2) indicating no evidence of multicollinearity unduly influencing the regression estimates.

Discussion

The first purpose of the present study was to investigate direct effects of challenge and hindrance stressors on the job outcomes associated with social exchange theory: employee loyalty, organizational commitment, perceived organizational support, and job satisfaction. Importantly, we added to the literature by testing these effects on two diverse New Zealand

populations: (1) blue collar employees and (2) indigenous employees. This is important to broaden the types of employee groups tested, as the current literature has focused predominately on managers. Broadly, the results were aligned with the literature. For example, while Cavanaugh et al. (2000) and Haar (2006) found alternative positive and negative influences of challenge and hindrance stressors respectively towards outcomes including job satisfaction, loyalty, and perceived organizational support, and our findings were relatively similar if not exact. In study one, challenge and hindrance stressors acted as expected towards employee loyalty and organizational commitment, highlighting these effects amongst blue collar workers. As such, the benefits of positive stressors may be universal by job type, or at least extends similarly into this work group.

The second study, on Maori, the indigenous employees of New Zealand, found similar positive and negative influences (as expected) towards perceived organizational support and job satisfaction, but only a direct and negative influence towards employee loyalty (from hindrance stressors), with challenge stressors not playing any role at all. Therefore, hindrance stressors were uniformly found to influence (negatively) job outcomes amongst an indigenous employee population, and challenge stressors also acted as expected in the majority. Again, with a diverse and unique sample in study two that differs from the usual study samples (e.g. Haar, 2006; Cavanaugh et al., 2000), the direct effects of stressors appears supported and further add to the universal nature of positive and negative stressors in the workplace. As such, these effects appear to be generalized to diverse employee populations including manual laborers.

Overall, the direct effects support social exchange theory where increased levels of challenge (positive) stressors, might be viewed by employees as a valued benefit (e.g. fulfilling jobs), leading employees to reciprocate by exhibiting higher loyalty and commitment towards the organization, feeling like they receive great support and responding with higher satisfaction with their job. Furthermore, hindrance stressors were found to have a negative effect on these outcomes, such that the emotive bonds of loyalty and commitment feel reduced due to lower feelings of reciprocity, and this also leads to lower perceptions of support and less satisfaction in the job. Thus, perceived job-related hindrance stressors, such as conflicting role designations, appear to result in limited perceived job benefits and thus, result in lower levels of reciprocal job-related attitudes. Overall, these findings are supportive of a large body of work on stressors and job outcomes associated with social exchange theory (Cavanaugh et al., 2000; Haar, 2006).

The major contribution of the present study was investigating the potential interaction effects of challenge stressors and hindrance stressors, to see what effect (if any), these two types of stressors would have on job outcomes. This approach has not currently been explored and provides a new direction for the hindrance and challenge stressors literature. Cavanaugh et al. (2000) advocated the simultaneous investigation of positive and negative stressors on job-related outcomes for enabling identification of a comprehensive range of job outcomes. Overall, there is support for these interaction effects in both samples. For blue-collar workers, high levels of challenge stressors will significantly influenced by hindrance stressors, with high levels of hindrance stressors leading to lower overall increases in employee loyalty compared to those respondents with low hindrance stressors. These effects are also similar amongst the Maori employee population, which ultimately shows a similar finding of superior employee loyalty through lower levels of hindrance stressors, although high challenge stressors were slightly detrimental to loyalty, reflecting the non-significant direct effect amongst this population. Furthermore, towards perceived organizational support, Maori

employees reported high levels of support at low levels of hindrance stressors and this was relatively stable amongst levels of challenge stressors. However, for Maori respondents with high levels of hindrance stressors there was a significant increase in perceived organizational at high levels of challenge stressors, highlighting a stimulating benefit for this group. However, the levels of perceived organizational support were still significantly different between the two groups, highlighting the overall benefit of low hindrance stressors. Combined, we find support for the hypothesis that these types of stressors can influence each other and provide more in-depth understanding of how employees react to stressors towards social exchange outcomes.

Contributions & Implications

Overall, the present study makes several contributions, including providing further empirical support for the two-dimensional nature of work-related stress as measured by challenge and hindrance stressors and extending this typology beyond the managerial realm (Cavanaugh et al., 2000) to the context of blue collar workers in New Zealand. Furthermore, the unique employee population of New Zealand Maori further highlights the applicability and largely uniform effects of stressors on job outcomes. Given the wide range of professions in the Maori study, and the blue collar focus of study one, we can postulate that the positive and negative influence of stressors is likely to extend beyond managers to employees in general. The last contribution is that challenge and hindrance stressors might influence job outcomes together in an indirect way (in addition to direct effects), and this was largely supported, with high challenge and low hindrance stressors typically providing the optimal response from employees through higher job outcomes. This sheds new light on the manner that stressors may influence job outcomes and provides support for stressors beyond the direct effect on outcomes. Furthermore, these effects are found in both studies which provide a greater sense of confidence in generalizing these effects.

The findings have implications for HR managers and researchers. Our results indicate that the optimal benefits for employees job outcomes is best achieved at low levels of hindrance stressors and high levels of challenge stressors. This has implications for job design and workload management issues, such as limiting hindrance and supported challenge factors. Furthermore, our findings also showed that hindrance stressors had a consistently negative impact on all four job outcomes studied, encouraging greater focus on these factors by HR managers. As such, organizations wanting greater reciprocity from employees might seeks to minimize the detrimental influences of hindrance stressors, perhaps through providing unambiguous, structured job role descriptions that set out employee role expectations. Similarly, developing greater chances for responsibility and challenging roles at work might enhance the challenge stressors of employees for enhanced positive effects.

Limitations, Future Research, & Conclusion

Despite its contributions there are a few limitations to highlight, especially associated with the first study. A small sample size (n=100), data collected from a single organization, and at a single time, clearly limits how much we can generalize the findings. However, these effects were similar to those found in study two, which includes a larger sample size, multiple industries, and separation of predictors and outcomes by a one month period. Furthermore, the unique populations of blue-collar workers and indigenous employees also provide unique

contextual contributions to the wider international literature. Furthermore, while the cross sectional nature of study one is open to issues of common method variance, this type of error is less susceptible with interaction effects (Evans, 1985), indicating the findings in study one are not influenced by a single data collection approach.

Future studies may wish to adopt different types of job outcomes, in particular performance based measures such as organizational citizenship behaviors to test whether the positive influence of challenge stressors extends into these dimensions. In addition, the influence of positive and negative stressors on health outcomes (e.g. job burnout, depression) have been largely under explored in the literature, and we encourage studies to test these, especially to determine whether 'good' stress (challenge stressors) is truly good for an employee's mental health. In conclusion, this study supports the direct and interaction effects of challenge and hindrance stressors on social exchange based outcomes, and provide strong evidence for its generalization through two diverse employee groups. Ultimately, we find employees respond best when they report greater challenge but less hindrance stressors.

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