

THE ROLE OF STRESSOR-STRAIN-SATISFACTION RELATIONSHIPS: AN EMPIRICAL STUDY IN NEW ZEALAND

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Abstracts

The current research explores the job and life attitudes among New Zealand managers. The author provides a model of stressor, strain and job satisfaction and put forward a research question. The relationship between stressors, strain and satisfaction appear to respond to a significant gap in the literature. This research has amassed one of the largest datasets on managers' health and wellbeing in Australia. A pilot study was conducted as part of a larger questionnaire survey of self-reported 1041 participants. This study was conducted using different modes of the survey that tapped into mode preferences among the participants. A sequence of regression analysis and descriptive test produced some interesting results. This implications of the findings were discussed.

Keywords : managers, individual difference , stressor, strain, job and life satisfaction

Introduction

There are a great number of cases among managers and employees in the work place who are involved in fatalities, injuries and ill health where stress and fatigue are the major contributors. Stress-related illnesses have emerged as a major concern and attracted increased interest from academics abroad. Further, there has been growing recognition that managers managing farms experience some of the highest levels of stress compared to their counterparts in education or service sectors. There is a considerable body of research available on managing stress which is restricted to comparing the manufacturing sectors (Kinman, 2001).

Stressful work activity has been associated with specific occupations. Any type of occupation has been found to lead to some negative effects on workers, but certain work activities are more likely to be more stressful; than other activities (Koslowsky, 1998). Previous studies focus on employee staff in a range of occupations, such as in the university, church, factory and school (Chen & Spector, 1991), fire and police employees (Schaubroeck, Ganster & Fox 1992), and academic staff (Kinman, 2001).

Individuals differ in their ability to handle stressful situations (Tugade & Fredrickson, 2004). Some can overcome stress, while others become incapacitated (Flett, Biggs, & Alpass, 1995). Tugade and Fredrickson noted that 'cognitive broadening' may significantly be shaped by events experienced in the formative years of life (p.366). The environment factors or stressors, such as the excessively high work demands, have been widely recognised as contributors to ill-health (Devereux *et al.*, 2004; Spector & Jex, 1998). The negative health and safety effects of stress are complex and vary realty between individuals (Bohle & Quinlan, 2000). Personality factors may have an influence

on their mental well-being in the stressful environment by impact of the stressors (Judd *et al.*, 2006). They found that “ psychologically healthy” managers possess a higher state of positive affectivity and lower levels of distress. Further, the individuals’ stress responses and outcomes may depend on his or her persona; and situationa; characteristics, such as age, type of occupation, and gender. From a practical stand point, stress is viewed as complex phenomena composed of the individual; appraisal of the extrernal stimuli or stressors, which can lead to undesirable outcomes, depending on the contextual and personal factors.

The effect of changes in an individual’s environment, perception, feeling and behaviour can determine one’s level of satisfaction (Heller, Watson, & Ilies, 2006). One particular is significant aspect of assessment in the work environment is the impact of stress that is related to the individual’s satisfaction at work. If the work stressors cause the individual to feel uncomfortable, the environment is perceived as negative and the individual will report low job satisfaction. According to Hulin, Roznowski, and Hachiya (1985), job satisfaction may influence life satisfaction because jobs are such a central part of people’s live. Job importance , however, is only one of the many psychological Cranny, Smith, and stone (1992), general job satisfaction is one of the components of occupational fields. In particular, the heightened awareness by researchers regarding the impact of job stress on the job and life satisfaction of workers. The consequences of job and life stress can lead to serious mental health problems that have an immense impact on individual(Beautrais, Joyce & Mulder, 1998).

Stressor-Strain-Satisfaction Relationships

A large amount of research has examined stressors and consequences of strains, strain and satisfaction in solidifying these relationships. The outcome could be maximized in managing occupational framework by understanding how the individual manages the strained situation and dysfunctional stress in the work environment. The work related psychosocial stressors originate from the work environment and has affected the workers psychological processes and thus influence their health. In particular, research has found some workers will experience psychological strains that will then use various mechanisms to deal with work environment stressors. The extent to which individuals successfully handle stress depends largely upon the characteristics of the individuals (Levi,1990). The potential individual differences variable such as personality trait is found to have an effect on the stressors and strain relationship (Fogarty *et al.*, 1999; Schaubroeck, Ganster & Fox 1992).

In addition, many researchers have attempted to link stressor, strain, and health-related symptoms in order to understand the assessment of the relationships (Hurrell, Nelson, & Simons, 1998 ; Smith & Tziner, 1998). Consistent with previous literature, significant correlations are found between stressors and strain ($r=.30$) (Chen & Spector, 1991 ; Semmer , Zapf, & Greif, 1996), and a reciprocal relationship has been found in a longitudinal study (Kohn & Schooler , 1982).

Frese and Zapf (1988) described several plausible patterns of change in the effect of stressors in the work environment. Since objective stressors are not influenced by an individual's cognitive and emotional processing, they are not conceptualised to cause a stress-reaction. On the other hand, subjective stressors involve the psychological processes of an individual's perception and self-appraisal of the situation. Therefore, the perceived stressors are seen to be stressful and can cause strain, if they exceed the individual's capacities or are threatening or aversive. For example, in a study by Moyle (1995) strain has been found to be significantly associated with organisational stressors, such as perceived workload. The perceived workload is the difference between perceived and actual demands, depending on an individual's assessment in his environment. The work environment may lead to strain if a stressor is perceived as a threat, but another individual may perceive it as a challenge (Cooper *et al.*, 2001). As Koslowsky (1998) argues, " the person's perception of the situation is the stressor and their response is a reaction to this stressor". Perceptions are an important component of stress and strain theories (Spector & Jex, 1998). As subjective stressors involve cognitive processes of individuals, the impact of is derived for the individual's self-appraisal of the situation.

If work stressors cause the individual to feel uncomfortable, the environment is perceived as negative and the individual will report low job satisfaction. According to Pugliesi (1999) in a diverse sample of 1,114 public university employees, the survey found a modest association of -0.40 ($p < .01$) between strain and job satisfaction. Pugliesi concluded that the impact of job-related stress decreases their job satisfaction and, thus, increases psychological distress.

Previous research has demonstrated a strong positive relationship between job and life satisfaction. The support for the spillover model between job satisfaction and life satisfaction has been extensive (Rain, Lane, & Steiner, 1991). Most of the researchers believe that the spillover model is a real phenomenon, where job experiences spill over onto other spheres of life (Hulin *et al.*, 1985 ; Judge & Watanabe, 1993 ; Near & Sorcinelli, 1986)

The relationship between job satisfaction and life satisfaction has been the subject of empirical research (Judge & Watanabe, 1993 ; Rode, 2004 ; Tait, Padgett, & Baldwin, 1989) as well as qualitative reviews (Heller, Watson, & Illies, 2006 ; Keon & McDonald, 1982). This relationship appears to be of interest to a wide variety of scholars, as shown by the fact the studies relating job and life satisfaction have been reported in journals devoted to psychology, sociology, counselling, management , leisure and other disciplines.

Theoretical Framework

Stressors are not intrinsically stressful to individuals; rather it becomes a threat when individuals perceive them as such. The investigation of the stress-strains-satisfaction linkage requires specific analysis of antecedents of the individual to draw accurate inferences about the situation (Koslowsky, 1998). The model of the stressor-strain-satisfaction relationships is shown in Figure 1.

When individuals are confronted with stressful situations, they would respond to the nature of stress. However if defensive reactivity is maintained for long periods, it may become a health risk. Subsequently, the excessive psychological reactivity is the main mechanism linking stress to a range of cardiac diseases (e.g., heart attack, sustained increases in heart rate, and a blood pressure)) (Vila, 2002).

As such, managers have to learn to be capable of handling unforeseen circumstances (e.g., loss of income) in order to be resilient. Personality traits can effectively influence individuals in coping with crisis in life situation (Tugade & Fredrickson, 2004). The healthy individuals would develop a positive self-concept than those who encounter psychosocial problems. This process enhanced the development of individuals at risk for problems and psychopathology. The protective factors, such as high self-esteem and internal locus of control , could be counterbalance the negative aspects of life when stressful life events (Werner & Smith , 2001). A review of the literature reveals a research question that requires investigation.

Research Question : What is the relationship between, perceived stressors-level of strains-job and life satisfaction among the managers?

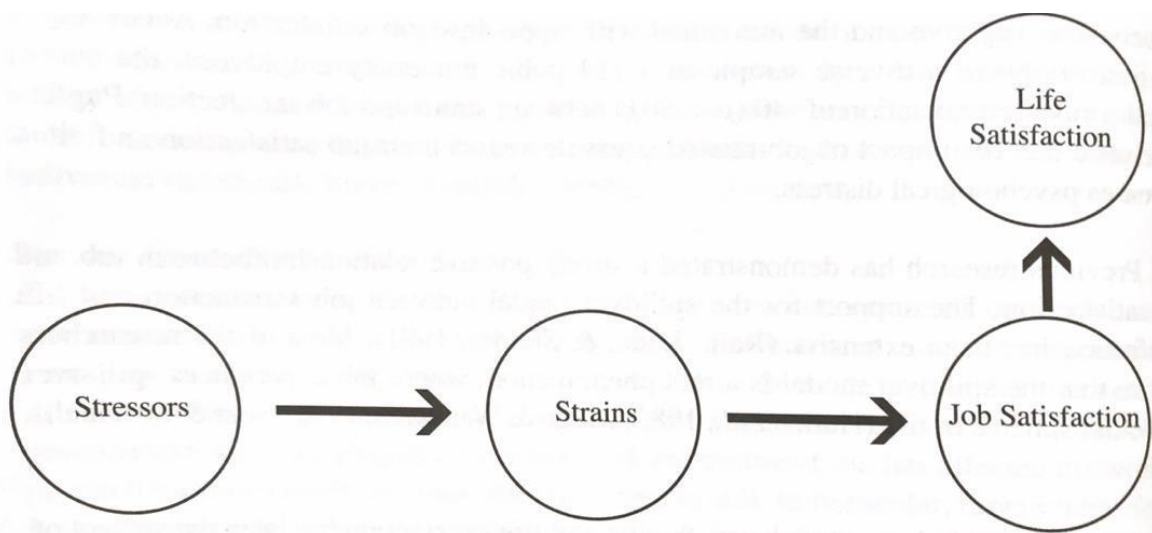


Figure 2 Hypothesised Theoretical Model

Research Methodology

This study has administered the quantitative method to examine the stressors-strain-satisfaction relationships. The data were analysed using correlation analysis, factor analysis, and multiple regression analysis. Most of the job stress instrument tools do not provide corresponding psychometric properties (Spector & Jex, 1998). Therefore an essential first part of the study was to undertake a pilot survey in order to modify the survey instrument . In order to overcome the limitations of the job stress instruments, a

Modified version, the General Health Questionnaire (GHQ-12) which is now the most commonly used in research was utilized (Kalliath, O'Discoll & Brough, 2004). The 12-items in General Health Questionnaire-12 were incorporated in managers' survey with 34-item Edinburgh Stress Inventory (Deary, Willock, & McGregor, 1997) , the 5-item life satisfaction instrument (Diener, Emmons, Larsen & Griffin , 1985) and the 5-item job satisfaction instrument (Brayfield & Rothe , 1951). This survey utilized an email survey, magazine as well as postal survey to reach out to the members of the federated organizations in New Zealand.

Results

A total of 1041 individual questionnaires were received from online survey, magazine and postal survey. The mean, standard deviations, correlations and internal consistency reliability estimates of all measures are presented in Table 1.

Table 1 Mean, Standard deviations, and internal consistency reliability, and Intercorrelations

Variable	Mean	S. D.	1	2	3	4	5
1. Job Satisfaction	5.91	0.82	1(0.75)				
2. Life satisfaction	5.37	1.02	.66**	1.00 (0.82)			
3. Strain (GHQ-12)	1.10	0.70	-.59**	-.59**	-.72**	1.00 (0.91)	
4. Stressor (severity)	2.14	0.58	-.34**	-.39**	-.45**	0.46**	1.00(0.93)
5. Stressor (frequency)	2.35	0.58	-.33**	-.38**	-.43**	0.44**	0.76**
			1.00 (0.94)				

This study has found that the response rate was different for postal, magazine, and email surveys. The results suggest that participants preferred mail and email survey compared to the magazine survey. Hence, the different modes of the survey have tapped into mode preferences among the participants (Schaeffer & Dillma , 1998). Previously, many studies have found higher response rates to mail surveys than to email surveys (Harewood *et al.*, 2002 ; Weible & Wallace , 1998 ; Yun & Trumbo, 2000). Table 2 shows the breakdown of participants according to the type of survey.

Table 2 Responses by mode of survey

Survey	Direct Post (1,000)	Postal-Magazine Insert (2,000)	Online (3,000)	Total
Total	317(31.7%)	245 (12.3%)	479 (16%)	1,041 (20%)

Statistics Package for Social Science (SPSS) version 17 was tested to explore factor analysis of Job Satisfaction, Life Satisfaction, General Health Questionnaires, and Edinburgh Stress Inventory (ESI). The factor structures of these variables were found to be similar loading to previous studies. Associations among the items of ESI (frequency and severity of stressors), strain, life and job satisfaction were examined and reported in Table 1. The result of the Pearson correlation have shown that these variables were in the expected direction. The findings also identified a number of stressors which in turn have a domino and cumulative effect, thus creating layer upon layer of stress” (Ang, Lamm, & Tipples, 2008). For example, one of the highest impact stressors identified by both male and female respondents was endeavouring to comply with the layers of government bureaucracy. The analysis also revealed that the effect of a high impact stressors could lead to a high level of strain (Ang & Wilson, 2010, in press).

In Table 3, the hierarchical multiple regression analysis was conducted to evaluate how well the independent variables predicted job satisfaction. Of the four control variables, only life satisfaction shows consistent significant effects over subsequent models ($p < .001$). The life satisfaction measure shows a strong and positive effect on job satisfaction that is consistent with prior findings (Heller *et al.*, 2002; Tait, Padgett, & Baldwin, 1989). In model 2, strain as an independent variable shows a significant negative effect with job satisfaction ($p < .001$). That is, the lower the strain, the higher the satisfaction. Thus, the results support the relationships of stressor-strain-satisfaction- as shown in the research question. The correlation between job satisfaction and life satisfaction in the last model of the moderated regression analysis, ($r = .25$) was comparable to the average unadjusted correlation ($r = .31$) reported in the meta-analysis by Tait *et al.*, (1989). Next, on average, the individual who experiences greater strain (median $> .92$) will likely experience lower job satisfaction (mean = 5.5, SE = .04). Next, the job satisfaction/General Health Questionnaire- 12 scale shows a gender difference, with females showing higher scores ($F = 13.59$, $df = 1, 1019$, $p < 0.001$). The strain mean score for female managers was 1.25 (SD = 0.88), compared to 1.04 (SD = 0.71) for male managers.

Table 3 Moderated Regression Results**Job Satisfaction**

Variable	Model 1	Model 2	Model 3	Model 4
Independent Variable				
Strain		-.36*** (0.04)	-.21*** (0.04)	-.25*** (.04)
Control Variable				
Constant	3.27 *** (.165)	4.27*** (.184)	3.14*** (.245)	3.07*** (.246)
Life satisfaction	.48*** (.022)	.34*** (.025)	.26*** (.027)	.25*** (.027)
Average hours worked	.001 (.001)	.002† (.001)	.002† (.001)	.002† (.001)
Gender	.042 (.058)	.111* (.055)	.130* (.054)	.138** (.054)
Tenure	-.002 (.002)	-.002 (.001)	-.001 (.001)	-.001 (.001)
R^2	.364***	.434***	.463***	.468***
Adjusted R^2	.361***	.430***	.459**	.463***
Change in R^2	.364***	.070***	.029***	.004**
N	833	833	833	833
F	118.26***	126.73***	118.80***	103.52***

Note : Standard errors are in parentheses.

^o values presented include centred data only.

† $p < .10$

* $p < 0.5$

** $p < .01$

*** $p < 0.01$

Discussions

The stress process begins with individuals exposed to unfamiliar environments or events that are interpreted as threatening and will respond with appropriate behaviour and emotion in the stress process to produce strain levels (Kammeyer-Mueller, Judge, & Scoot, 2009). On the contrary, the individuals may perceive the events that are interpreted as challenging and may tolerate the effect of stress to reduce strain levels.

An interesting finding of this research associated with relationship is the concurrent relationships of stressor-strain-job satisfaction-life satisfaction process. The challenging environment allows the managers to perceive the stressor as opportunities, which allow them to have tolerance for increased job demands. Individuals may tend to have a general world view, where these views may spill over to the workplace and they may be sensitive

to demanding work situations (Judge *et al.*, 1998). Moreover, this result suggests that individual differences relating to self-perception which might affect reinterpretation of self-expression, thereby reducing potential stress. This process is termed as 'differential reactivity hypothesis' (Kammeyer-Mueller, Judge, & Scott, 2009). The individuals who believe that they do not have sufficient personal resources to cope with specific events may experience more intensity of stress reaction (Karasek & Theorell, 1990). This may be especially critical in an era of increasingly unstable economics due to financial crisis and unpredictable working conditions.

As anticipated, this study supports previous findings that there are links between stressors and psychological strain. The managers in this study experienced strain when the characteristics and demands of the work were misaligned with their abilities. When the profit-oriented managers' do not achieve their targets, they are likely to experience psychological strain.

These studies reported converging evidence that workers who reported work-related strain will generally associate it with job dissatisfaction. However, in this study, the managers reported low levels of strain. Thus, the managers, as reported with other workers, were satisfied when working in a low strain job and, because work is an important part of managers' lives, it influences their life satisfaction. The happy individuals are less sensitive to unfavourable events compared with the unhappy individuals. Thus, the managers who report satisfaction working on site may have a belief that their lives are good, and this belief might play a crucial role in enhancing their evaluation of central life domains.

Implications of the Research

It is important for management consultants to accurately analyse the job requirements and demands of managers. The potential candidates might rely on behavioural-based questions that address past experiences working in demanding work situations to gauge the match of candidates' abilities to cope with such situations. The consultants can more accurately articulate a realistic job preview for candidates who intend to become managers. It may be that managers who exhibit positive attitudes should be selected for working in a challenging situation, as the trait may help them cope with adversity and still be both high performers and satisfied with their job and life.

Next, there has been some interest in understanding why some individuals are more resilient in stressful situations than others. It would be interesting to see whether the tendency for individuals with positive attitude to engage in stressful events. Perhaps the individuals; personality traits may influence the the objective work farm environment. If this is true, the practitioners might want to pay careful attention to the work choices being made by individuals who have lower self positive attitude and provide additional encouragement to confront the impact of of stressors directly. Organizations may benefits from the increased understanding to the positive attitude individuals. However, the individual career choices are driven by perceptions of lifestyle, earnings and social standing (Marfarlane, 2009). It might be practical for practitioners to include personality inventory when a candidate is palnning to venture into a business. This might potentially be an important input when

Venturing into business as a career, especially for individuals, where making wrong career choice is very costly specifically to the individuals and to the nation as a whole. The outcome of this study will inform management consultants to identify areas where the industries can make improvements, be used in recruiting and selection programs, and to assist individuals in career planning as well as in job performance.

Cooper, Liukkonen and Cartwright (1996) suggest that among the typical outcomes of stress are decreased job satisfaction and increased propensity for accidents and mental illness. The dissatisfied worker who is not adaptive to work conditions would experience greater physical and mental health symptoms than workers who have successfully adapted (Miller & Rosse , 2002). It is important in designing appropriate education management programme not only applicable for the local communities but also possibly for the general population.

Recommendations

It is important that future research not only focus on individual traits but consider situational differences such as job-family variables (Decker & Borgen , 1993). Next, the replication of this study should be conducted in a multicultural as this research seems to be important but neglected research in many countries. Next, it is recommended that, future research should include the education sector or a different occupational group in Malaysia, to establish the generalizability of the findings. This would not only contribute to the body of literature on life and job satisfaction, as well as, stresses, it would be also be useful validating the findings of this research. Because the present study is based on cross- sectional design, this study did not investigate whether the findings may persist over time. In particular, the possibility of direct effect of stress on personality that lead to strain cannot be ruled out in the absence of a longitudinal design (Grant & Langan-Fox, 2007). Thus, which variable actually affects another is impossible to assess when the measures are not repeated over time (Kammeyer-Muller, Judge, & Piccolo, 2009).

Recently researchers have proposed to focus on maintaining a positive outlook in the face of stressors (Nelson & Cooper , 2007). Future research should expand the existing knowledge and gain new insights on the key sources of stressor among managers with positive outlook. It is hoped that the information gained from this study will provide the education organizations updated perspectives and opinions of the educators rate their levels of stressor, as well as the psychological strain, job and life satisfaction. Future studies should attempt to assess whether a more specific measure of strain would have even greater incremental validity in a study involving negative aspects of individuals' attitudes. This should broaden the perspective of positive undesired effects. For instance, individuals with high self-esteem have been known to experience temporary emotional impediments and incur loss when they fail to pursue their own goals (Crocker & Park , 2004).

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