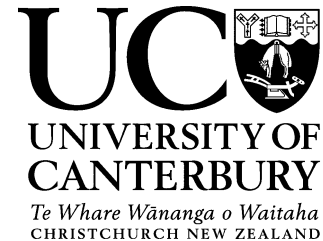


# Department of Psychology

## Postgraduate Course Work Cover Sheet



Student ID: 21970292

Name: Frances Walls

Course Code: APSY 660 .....Due Date: 01/04/2012

### **Essay/Assignment Topic and Number (i.e Report 1, Essay 2) (if**

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I have read the above statement and confirm that the work I am submitting is my own.

Signature:..... Date: 19/03/2012

**DUAL-RESPONSE APPROACH TO WORK STRESS: AN INVESTIGATION  
OF ORGANISATIONAL STRESSORS, INDIVIDUAL MODERATORS AND  
WELLBEING OUTCOMES.**

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**A research project submitted in completion of the Dissertation 660 course for  
Master of Science in Applied Psychology at the University of Canterbury  
by Frances Walls, under the supervision of Dr. Joana Kuntz and Dr. Katharina**

**Näswall**

**2012**

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## Table of Contents

<b>Acknowledgments.....</b>	<b>1</b>
<b>Abstract .....</b>	<b>2</b>
<b>Introduction .....</b>	<b>3</b>
1. Introduction.....	3
2. Stress literature review.....	5
2.1 Wellbeing.....	6
2.2 Work stress models.....	7
3. Dual-response approach to work stress – Distress and Eustress.....	9
4. Present study.....	14
4.1 Organisational stressors.....	15
4.1.1 Person-job fit.....	15
4.1.2 Role overload.....	16
4.2 Wellbeing outcomes.....	18
4.3 Moderating Variables.....	20
4.3.1 Work-Family conflict.....	20
4.3.2 Self-efficacy.....	23
<b>Method .....</b>	<b>24</b>
Sample.....	24
Materials .....	25
Procedure .....	28
Data analysis.....	29
<b>Results .....</b>	<b>30</b>
<b>Discussion .....</b>	<b>39</b>
Mediation model.....	39

Moderated mediation model.....	40
Work stress models.....	43
Methodological considerations .....	44
Implications/applications .....	46
Conclusions.....	48
<b>References.....</b>	<b>50</b>
<b>Appendix A .....</b>	<b>61</b>
<b>Appendix B .....</b>	<b>62</b>
<b>Appendix C .....</b>	<b>62</b>
<b>Appendix D .....</b>	<b>64</b>

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### **Abstract**

This study demonstrates the complex place stress has in the workplace by investigating both positive (eustress) and negative (distress) stress responses. An international sample of 140 individuals was recruited from various industries and organisational levels and these individuals participated in a confidential online survey. A moderated mediation model was proposed in which organisational stressors (person-job fit and role overload) influenced employee affective wellbeing directly and indirectly through stress responses, moderated by individual factors (work-family conflict and self-efficacy). Person-job fit influenced eustress which had positive effects on employee affective wellbeing. Role overload influenced distress which negatively impacted affective wellbeing. Self-efficacy moderated these relationships, with high levels increasing stress responses both negative and positive. Work-family conflict moderated relationships by reducing the positive effect of eustress and increasing the negative effect of distress. The findings not only advance current knowledge but have implications for organisational stress management practices.

## **Dual-response approach to work stress: An investigation of organisational stressors, individual moderators and wellbeing outcomes.**

### **1. Introduction**

Health is a multidimensional concept which involves an individual's emotional, intellectual, spiritual, occupational, social and physical wellbeing (Nelson & Simmons, 2003). Hans Selye (1975) defined stress as a response of the body which can occur in all dimensions of human health in reaction to a demand. Stress responses can be both psychological and/or physiological in nature (Colligan & Higgins, 2005). These stress responses are assessed via the physical and behavioural responses of an individual which occur due to the psychophysiological reactions one has to a demand (Weinberger, Schwartz & Davidson, 1979). The term stress has become commonly used in society, and in lay terms it is used to describe a negative response to some form of stressor. The term strain is used interchangeably with stress in the academic literature (LeFevre, Kolt & Matheny, 2003).

Organisations are now attending to the concepts of health and stress as important factors for employees (Kelloway & Day, 2005). Much research within industrial and organisational psychology focuses on workplace stress and it has been found that levels of work related stress are increasing (Cryer, McCraty & Childre, 2003). Common organisational stressors have been identified in research in relation to personal (work-life conflicts, physical health etc.), occupational (role issues, job uncertainty etc.) and organisational (change, culture etc.) factors (Murphy, 1995). As individuals lives get busier and organisations are actively working to gain competitive advantage, the impact of these stressors increases and this can explain the increasing levels of work related stress.

The recent focus on employee health and in particular workplace stress is not arbitrary; organisations are beginning to realise that this stress can have significant organisational outcomes. Workplace distress has been found to be costly for organisations as it can decrease performance and increase absenteeism and turnover (MacDonald, 2003). One drastic example of this decreased performance is seen in the health care industry. Distressed doctors have been found to provide a lower level of medical care to patients and high distress levels have also been linked to patient deaths (Charatan, 1999; Firth-Cozen & Greenhalgh, 1997). This stress not only has ramifications for organisations but for individuals and society. Workplace stress costs the United States of America more than \$300 billion each year in health care, missed work and stress-reduction costs (The American Institute of Stress, 2000). Another example of this closer to home is the \$14.81 billion a year cost of workplace stress on the Australian economy (Medibank Private Limited, 2008). Clearly it is in the interest of today's organisations to monitor stress in employees and create positive work environments and conditions where possible.

The field of stress has predominately focused on the causes and consequences of employee distress. Current research is now advancing into new territory; investigating a more positive side of stress. Eustress is good stress which arouses employees and creates drive and positive feelings of fulfilment (Selye, 1975). A more holistic model of stress has been proposed which incorporates both the negative (distress) and positive (eustress) sides of stress (Selye, 1975). Distress and eustress are distinct constructs and can affect individuals simultaneously, therefore simply understanding employee distress is not enough to effectively manage stress. Inclusion of eustress in research allows for a more comprehensive view of how stress is impacting individuals and organisations. The current study aims to extend research in



the field by studying some of the major sources and outcomes of stress using this more complete two part model. The results may also shed light on how organisations can better manage stress to reduce the negative while generating positive individual and organisational outcomes. The study has three main aims;

1. To investigate organisational stressors (person-job fit and role overload) as antecedents of stress responses (distress and eustress).
2. To investigate the relationships between stress responses (distress and eustress) and wellbeing (job related affective wellbeing).
3. To investigate the moderating effects of individual/personal variables (work-family conflict and self-efficacy) on the organisational stressors, stress responses and wellbeing relationships.

## 2. Stress literature review

### 2.1 Precursors of stress responses at work

Murphy (1995) investigated the main areas of work which are potential stressors on employees. Five categories were identified from this research; firstly factors unique to the job, involving job design, working environment, workload and meaningfulness of the work. Role in the organisation is the second identified factor which centres on the level of responsibility and hierarchical structure of the workplace. Career development, promotion opportunities and job security is the third identified area of Murphy's model. Interpersonal work relationships were also identified as an important job factor in workplace stress. These relationships can be with supervisors, subordinates or peers, and team dynamics are important within this factor. The final category is organisational structure and climate, which involves communication patterns, management style, and meaningful participation in decision-

making (job control). This model makes salient some of the important areas for organisations to focus on when they are considering work stress and employee health. Other antecedents of workplace stress have been uncovered in research and these results will be demonstrated throughout this discussion.

## 2.2 Wellbeing

Multiple studies have found links between stress and both physiological and psychological wellbeing outcomes (Blewett et al., 2007; Gelsema et al., 2005). Emotional exhaustion, job dissatisfaction and reduced general wellbeing are identified as common psychological outcomes which are directly and strongly related to stress. Emotional exhaustion is the complete depletion of emotional resources and is a major precursor in occupational burnout (Gelsema et al., 2005). Studies suggest that if an employee perceives a work factor as distressing, they are likely to experience negative impacts on their physical and psychological wellbeing. These relationships between stress and wellbeing have been found in multiple industries and among both those in managerial roles and those in blue collar work (Anderson, 1977; Gelsema et al., 2005; Rothmann, 2008).

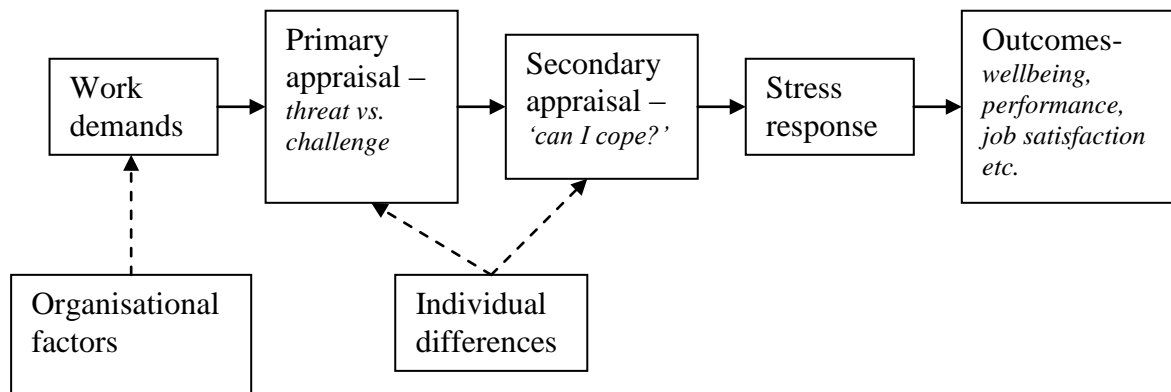
Employee wellbeing can be influenced by stress in multiple ways and is of central importance to organisations. Cohen and Single (2001) examined the outcomes of stress on employees and identified five symptom areas. First, emotional symptoms include all the moods and feelings of an individual. For example, high levels of distress could lead to dissatisfaction, anxiety or anger. Secondly, physical symptoms observe all physical feelings and symptoms of an individual. Examples include muscle tension, blood pressure and restlessness. The third symptom area identified was behavioural outcomes. Examples of this in the workplace could involve avoidance, impatience or drug and alcohol abuse. Mental symptoms can also be

outcomes of stress such as memory and decision making issues as well as rigid or capacious thinking. Finally the authors identified health symptoms caused by stress. These can range from minor colds and sickness to serious health issues such as strokes and heart attacks.

### 2.3 Work stress models

The job demand-job resource model illustrates a theory related to work stress which aims to demonstrate how job features can promote burnout in employees (Demerouti et al., 2000). Within this model job demands which are often referred to as stressors are organisational, physical or social aspects of the job which require sustained effort. This physical or psychological effort experienced places some form of cost on the individual. Job resources are health protecting factors which reduce demands or aid individuals in coping with demands. These resources can be organisational, social or physical, for example job design, supervisor support or safety equipment, respectively. The model states that lack of organisational resources increases job demands. Job demands in the model are positively related to employee distress. This model has been tested in the health and community services sectors and the relationships between resources, demands and distress has been confirmed (Gelsema et al., 2005). Within this study job demands were split into two categories: work demands and emotional demands. Work demands involve factors such as load/pressure, responsibility, operational hassles and work-home interference. Emotional demands include work factors such as lack of job control, lack of support, rewards, role, interpersonal conflicts and organisational injustice. Associations with stress were found for both work and emotional demands. This model emphasises the importance for organisations to provide all the necessary resources employees need to perform the job, in order to reduce demands and help prevent distress.

The cognitive-transactional model of stress was conceptualised by Richard Lazarus and his colleague and aims to demonstrate the relationships between work demands, stress responses and outcomes (Lazarus, 1966, 1999; Lazarus & Folkman, 1984). The model is graphically presented in Figure 1. The model shows that job demands are appraised by the employee as a threat or a challenge during primary appraisal. The employee must then decide if they have the tools and abilities to deal with the demand in secondary appraisal. These cognitive judgements have the potential to lead to stress. This stress response then affects multiple outcomes both at the individual and organisational level.



**Figure 1: Cognitive-Transactional Model of Stress (Lazarus 1966, 1999; Lazarus & Folkman, 1984).**

The appraisal steps in the model emphasise the fact that stress comes down to the individual's perception of a demand (Gardner, Fletcher & McGowan, 2006).

Individuals perceive demands differently as threats, challenges or even as irrelevant (Colligan & Higgins, 2005). This means that for one employee, having a tight deadline to meet might be distressing, but another employee may find this challenging and motivating. Individuals also perceive these demands with different levels of stress (LeFevre, Kolt & Matheny, 2006). For example one employee may find a tight

deadline to be stressful and suffer slight worry, but another employee may interpret this deadline as extremely distressing, causing chronic anxiety.

Secondary appraisal involves an individual's perception of whether or not they can cope with the demand. Schwarzer and Knoll (2003) highlighted some of the tangible approaches individuals use to cope with stressors. Coping has been defined as an effort to manage and/or overcome demands and critical events that pose a challenge, threat, harm, loss, or benefit to a person (Lazarus, 1991). Coping has often been categorized as emotional or task focused (González-Morales, 2006). Emotional focused coping aims to reduce the negative feelings and moods associated, whereas task focused coping works to reduce or remove the demand. Individuals differ on the approach to coping they take (Gardner & O'Driscoll, 2007). These differences in coping perception and coping strategies are dependent on the individual and therefore originate from experience and personality characteristics (Beasley, Thompson, & Davidson, 2003; Karademas & Kalantzi-Azizi, 2004). Psychological capital is a conceptualised variable involving one's optimism, hope and resilience. Psychological capital has been negatively related to distress levels, this reinforces the fact that personality has an influence on stress levels (Avey, Luthans & Jensen, 2009). Other personality variables have been shown to affect the way an individual interprets a demand (primary appraisal) (Avey et al., 2009) and the coping strategies used to deal with demands (secondary appraisal) (Gardner & O'Driscoll, 2007). Therefore we can draw conclusions that organisational factors, along with individual differences, affect perceived demands and subsequent stress and behavioural responses.

### 3. Dual-response approach to work stress – Distress and Eustress

Ryff and Singer (1998) investigated human health and took a more positive approach to its investigative line. They looked into what factors cause humans to prosper and thrive. They identified purpose in life, quality connections to others, self-regard and mastery as key factors needed for positive human health. The positive psychology field developed after WWII when scientists observed that certain individuals were able to remain positive through extremely tough times and experiences (Seligman & Csikszentmihalyi, 2000). This positive psychological approach quickly gained momentum and soon moved into the area of organisational psychology where the focus became emphasising and promoting strengths within individuals and the organisation as a whole (Luthans, 2002a, 2002b). This approach led to a more positive view of human resources and a focus on the personality traits that promoted resilience. Stress research till this point had focused on distress and little was known about the potential for positive stress (Gardner & O'Driscoll, 2007). Investigating the positive side of stress and the idea of promoting positive wellbeing now became salient (Nelson & Simmons, 2003).

Eustress is a term first defined by Hans Selye (1975), and it captures the positive side of stress. The prefix 'eu' means good in Greek so eustress can simply be thought of as good stress (Biswas, 2009). Through this positive view of stress, Hans Selye (1975) produced a more complete two-part model of stress which acknowledged both distress and eustress. Quick and colleagues (1997) defined eustress as good health and good performance. Their definition focuses on the positive and constructive outcomes of the response. More recent work has defined eustress in terms of the actual stress response rather than the outcomes of this response (Nelson & Simmons, 2003). Therefore eustress can be classified as healthy stress involving positive feelings or fulfilment.

A key element in eustress is, just as individuals differ in the level and demands that cause them distress, individuals also vary in what promotes eustress (Colligan & Higgins, 2005). For example, one individual may be motivated and determined to achieve a task on time when faced with a tight deadline, whereas other employees may not find this pressure arousing at all and avoid or pass off the task. It is important to note when considering this two part model that eustress and distress are two distinct constructs. Distress is defined as when a demand causes a negative emotional or psychological reaction in an individual (MacKenna, 2000). This form of stress is seen as dysfunctional stress. Stress responses do not lie on a continuum from positive responses to negative responses. Although these two constructs are distinct, they are not mutually exclusive and therefore a demand can lead to both distress and eustress simultaneously in the same individual (Gibbons, Dempster & Moutray, 2008). This again can be seen in the deadline example; although the time pressure may increase an individual's anxiety levels, it may also increase arousal and engagement in the task. Selye (1987) stated that it is how an individual interprets a stimulus that determines whether it is distressful or eustressful. This interpretation of a stimulus is unique to the individual and explains how both eustress and distress fit into the cognitive transactional model of stress (Lazarus 1966, 1999; Lazarus & Folkman, 1984). Therefore an individual's stress response is considered primary and secondary appraisal as well as the actual stress response. For example a stress response can be thought of as; whether one sees a demand as a threat, challenge or both; whether one believes they can cope with the demand; and ones psychological and/or physical response to the demand. Factors of the stressor such as its timing, its desirability, its benefits and its source (self or externally imposed) can influence an individual's perception of a stressor (LeFevre et al., 2003). Therefore when an individual reacts to

a stressor with positive emotions it is likely to maximise eustress and conversely negative emotional reactions will maximise distress responses (Selye, 1987).

The inclusion of eustress into work stress research offers a more comprehensive view of employee health and motivation. With this two-part model of stress, organisations cannot only focus on reducing negative stressors in a job, but also on generating positive eustress and therefore fulfilment and motivation in employees (Macik-Frey, Quick, & Nelson, 2007; Nelson & Simmons, 2003). Recent research in the field has produced some evidence of antecedents of eustress. Firstly, job and work characteristics can be utilized by organisations to promote eustress in employees. Nelson and Simmons (2003) identified some antecedents; clear and reasonable role demands, achievable physical demands, positive interpersonal demands and employee-friendly policy and working conditions. Other research also identified the importance of support from the organisation and supervisors (Gibbons et al, 2008; Macik-Frey et al, 2007). Nelson and Simmons (2003) noted that individual differences play a part in employee levels of eustress. They highlighted optimism, locus of control, hardiness, self-reliance and having a sense of coherence. Self-efficacy effects on eustress have also been noted by other authors through the part that individual knowledge and mastery has to play in stress (Gibbons et al., 2008; Swody, 2006). These individual difference effects occur in the primary appraisal and the selected coping strategies of individuals (Gardner et al., 2006). Multiple studies all emphasise the importance of hope, meaningfulness and engagement in work on stress levels (Macik-Frey et al., 2007; Nelson & Simmons, 2003). It has been suggested that these factors may mediate the relationship between stressors and stress (Nelson & Simmons, 2003). More recently, engagement, hope and manageability have been identified in research to be measurable states of eustress (Little, Simmons & Nelson,



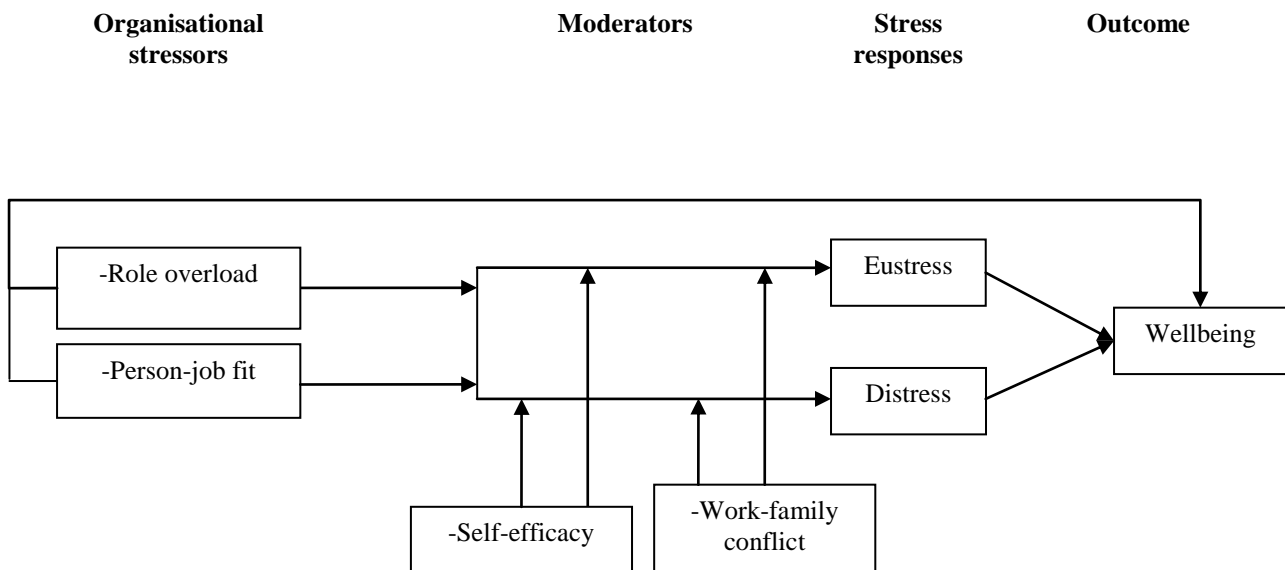
2007). Therefore these factors are thought to tap into the construct of eustress.

Organisational and individual antecedents of eustress require much further investigation to produce a full understanding of how to promote eustress in the workplace.

Just as distress has been shown to produce negative organisational and individual outcomes, those studies which have investigated eustress outcomes have found the possibility for positive effects. Firstly, links have been identified between workplace eustress and both job and life satisfaction (Swody, 2006). This result is likely to relate to the strong relationship between meaningfulness and eustress. Having a sense of meaningfulness gives purpose and fulfilment which could lead to satisfaction. Research has also made associations between eustress and wellbeing (Clausen, 2009; Macik-Frey et al., 2007) including positive health perceptions in employees (Nelson & Simmons, 2003). Ashford and Black (1992) investigated proactive behaviours in the socialisation process, and found the more active individuals were during an organisational entry process the easier they would adapt into the organisation. These proactive behaviours can be thought of as engagement motivated by feelings of eustress. Ashford and Black (1996) tested outcomes of these proactive behaviours and found that efforts to socialise with organisation members and positive framing lead to job satisfaction and higher performance in individuals. Framing in this study referred to the way new job tasks and challenges were appraised (primary appraisal). Positively framing work situations increases self-confidence and self-efficacy which has positive effects on satisfaction and performance. Further research into eustress outcomes will encourage organisations to assess and generate eustress within employees to produce positive employee and organisational outcomes.

#### 4. Present study

The arena of workplace stress is a large field within which much research is still required to gain understanding. Nelson and Simmons (2003) prompted research to begin to investigate stress in a holistic manner, involving both eustress and distress. The current study will take eustress and distress as the central variables and work to find links between some important antecedents of stress and a wellbeing outcome of this stress. The study aims to investigate the relationship between organisational stressors (person-job fit and role overload) and both positive and negative stress responses (distress and eustress). A wellbeing outcome (job specific affective wellbeing) of these stress responses will also be investigated. Nelson and Simmons (2003) highlighted the fact that stress responses are more accurate predictors of wellbeing outcomes than the levels and presence of organisational stressors. Therefore the study will test a mediation model in which stress responses mediate the relationships between organisational stressors and the wellbeing outcome. Within this mediation framework two individual/personal variables, work-family conflict and self-efficacy, will be investigated as possible moderators of the stressor to stress response relationship. This moderated mediation model should allow a comprehensive view of the relationships between stressors and outcomes within individual contexts (Preacher, Rucker & Hayes, 2007). Figure 2 is a model of the current study's investigation; it depicts the moderated mediation model of these stress relationships.



**Figure 2: Antecedents, Moderators and Outcomes of Stress Responses in the Organisational Setting.**

#### 4.1 Organisational stressors

The following section lays out the organisational stressors expected to be antecedents of stress responses in the current study's model. It highlights why these antecedents were chosen as important factors, reviews the literature to date on each of these factors and outlines hypotheses regarding main effects of each on stress responses.

##### 4.1.1 Person-job fit

The word “fit” in organisational psychology infers compatibility between person and work environment (Kristof-Brown, Zimmerman & Johnson, 2005). The person-job fit theory emphasises the importance of this fit within the organisational setting (French, Rodgers & Cobb, 1974). Working conditions are assessed in terms of the level of supply value the environment provides that fit with the individual's preferences and needs (Meier et al., 2008). The person-job fit model has been adapted to focus on stress in the workplace it acknowledges that jobs have different rewards, demands and required skills and combines this with the idea that individuals have

different needs, preferences and competencies (Schwartz & Pickering, 1996). Therefore, it is important to find a match between job/tasks and employee preferences. Lack of fit is likely to lead to strain in some area of the organisation (Kristof-Brown et al., 2005). Differences in employee levels of distress have shown to be a function of the relative fit between employee and job demands (Caplan et al., 1975). Maslach (2003) also showed that lack of fit can lead to the most extreme form of stress in terms of complete burnout. Good fit in the workplace has been tied to positive health benefits in employees (Edwards & Cooper, 1988; Harrison, 1978, 1985). It is known health wellbeing outcomes are often mediated through stress responses therefore a link between good fit and eustress is likely. LeFevre and colleagues (2003) commented on this possible link as an interesting avenue for future research. In support of this possible link, fit between an individual's personal, social, economic and/or environmental resources and the demands of the job has been shown to lead to eustress and individual wellbeing (Clausen, 2009).

The current study aims to find some understanding in the relationship between person-job fit and stress responses. Person-job fit will be measured in terms of how much the job meets the individual's competency levels and fulfils their needs. Good fit is expected to fulfil and arouse employees whereas poor fit will lead to distress. The main effects predicted aim to support and strengthen relationships found in past research.

H1 (a): Person-job fit will be positively associated with eustress.

H1 (b): Person-job fit will be negatively associated with distress.

#### 4.1.2 Role overload

Role stress relates to three main aspects of role: ambiguity, conflict and overload (Chang & Chang, 2007). Role overload has been described as the extent to

which role demands create the perception that available resources are inadequate to deal with them, resulting in distraction and stress (Kahn et al., 1964). In the current workplace, role overload is widespread as organisations push to increase productivity to stay competitive (Brown, Jones & Leigh, 2005). A survey amongst sales people demonstrated the high level of role overload in workplaces. These sales people reported that role overload prevented them from maintaining a healthy lifestyle (staying on top of health, maintaining exercise and regulating drugs and alcohol use) and negatively affected their personal lives and romantic relationship (Cummings, 2001). Due to this prevalence and the substantial impact of role overload, this variable requires further investigation to gain a comprehensive understanding of its relationship with stress (Peterson et al., 1995). Role demands, including role overload, have been identified as sources of distress in organisational settings (Biswas, 2009; Nelson & Simmons, 2003). Role overload is thought to lead to distress by way of both unmanageable volumes of work and the associated failure to deliver quality outputs in a timely fashion (Sales, 1970). Role overload has also been linked to tension levels and emotional exhaustion (Örtqvist & Wincent, 2006). In connection with these distress findings Nelson and Simmons (2003) found that reasonable role demands were related to eustress.

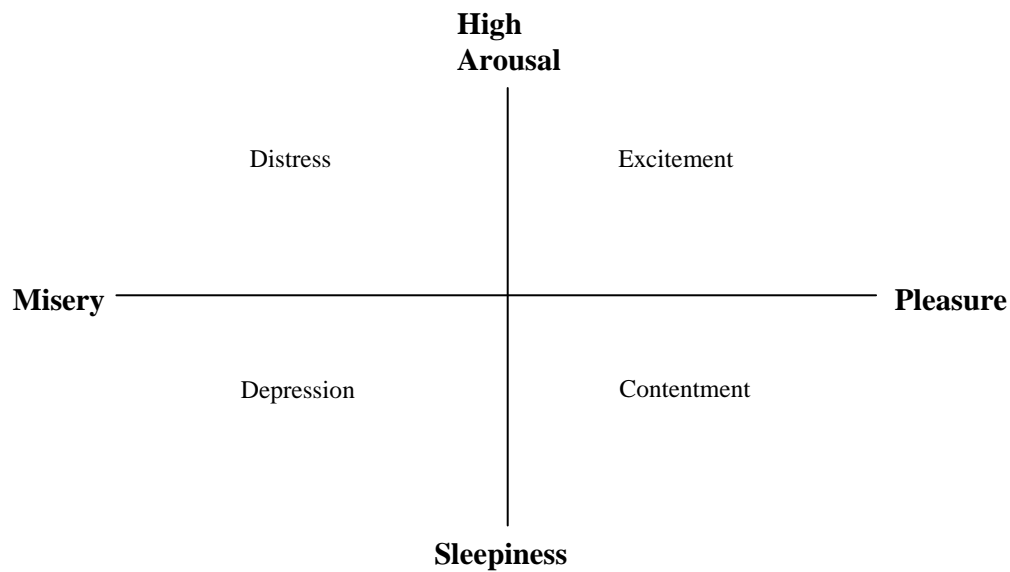
The current study looks to extend knowledge of role overload by investigating its link with distress and eustress in employees. No studies to date have specifically investigated role overload in terms of eustress, therefore the present study will break new ground in exploring the potential links. As employee's role load increases, this is expected to promote a distress response, but also to arouse the employee and create feelings of challenge and potential for mastery and fulfilment. The following predictions reflect our expectation of role overload's main effects on stress responses.

H2 (a): Role overload will be positively related to eustress.

H2 (b): Role overload will be positively related to distress.

#### 4.2 Wellbeing outcomes

Wellbeing is a broad construct and has been defined and measured in many ways throughout the literature. Past measures have focused on different dimensions of wellbeing such as mental health, physical symptoms, general health and job satisfaction (Warr, 1990). Affective wellbeing is another dimension of wellbeing which can be utilised in the study of stress (Van Katwyk et al., 2000). It has been suggested that a measure of affective wellbeing is more relevant to and useful in explaining findings of stress research than the commonly used measure of job satisfaction, which is related to almost every organisational variable (Daniels, 2000). Affective wellbeing was developed from Russell's (1980) model of emotions. This model demonstrated that all emotions fall at some point on a scale of two dimensions. The first dimension is misery to pleasure. This represents an individual's state of pleasure/happiness. The second scale focuses on arousal and emotions can fall at some point between high arousal and sleepiness. Figure 3 demonstrates this model.



**Figure 3: Two Dimensional Model of Emotion (Russel, 1980).**

The focus on emotions in affective wellbeing means measures avoid attitudinal satisfaction and clearly tap into pure emotional responses (Van Katwyk et al., 2000). Affective wellbeing fits an organisational job stress perspective as emotions have been shown to mediate the stress response to strain relationship (Van Katwyk et al., 2000).

In this study, an emotions perspective of wellbeing is being considered. Job specific affective wellbeing will be the construct measured. Affective wellbeing can be defined as emotional responses based along the dimensions of arousal and pleasure (Van Katwyk et al., 2000). Distress has been linked in much of the literature already outlined to have negative wellbeing outcomes and logically this should hold for affective wellbeing. In terms of eustress, little empirical evidence exists around the wellbeing outcomes. However, a positive response of fulfilment will expectedly lead to job-related positive emotions. The following are the current predictions of how the different stress responses will affect wellbeing.

H3 (a): There will be a direct association evidenced between organisational stressors and wellbeing outcomes. This effect however will be partially mediated through stress responses.

H3 (b): Eustress will be positively associated with affective wellbeing outcomes.

H3(c): Distress will be negatively associated with affective wellbeing outcomes.

### 4.3 Moderating Variables

The current study also wanted to recognise the impact of key individual/personal variables in the organisational stressor to stress response and wellbeing relationships. Including individual/personal variables in the model means a more comprehensive view of how stress reactions are produced in the workplace and how an individual's context affects these relationships (Jex & Bliese, 1999). Work-family conflict and self-efficacy were selected as they have both been strongly associated with stress over a large portion of the literature to date, this will be outlined in the corresponding sections.

#### 4.3.1 Work-family conflict

Role theory encapsulates the idea that behaviour in everyday life is determined by socially defined categories called roles (Cooke & Rousseau, 1984). For example, an individual can be an employee, a mother, a friend etc. The scarcity theory states that an individual's time and energy is constant (Chapman, Ingersoll-Dayton & Neal, 1994; Marks, 1977). Therefore, individuals have limited resources (time, energy etc.) to deal with pressures and demands. Spillover theory acknowledges that moods, thoughts and stress generated in one role can often spillover and influence another role domain (Williams & Alliger, 1994). This spillover creates inter-role conflicts,



where the pressures in two or more roles are incompatible (Greehaus & Beutell, 1985). This spillover effect has been evidenced between the home/family domain and the work domain (Edward & Rothbard, 1999). Work-family conflict has been defined as interference in performing family related responsibilities due to the time demands and strains of the job (Netemeyer, Boles & McMurrian, 1996).

In recent times, the workplace has become more diverse and women, dual earner couples and single parents are commonplace in many organisations. This diversity has created an increase in work-family conflicts and has made this an important issue for organisations to consider (Donaldson & Grant-Vallone, 2001). For example, a survey of working parents found that the majority reported having a shortage of time to fulfil their multiple roles (Hochschild, 1997). It seems logical that conflicts between work and family life would lead to stress responses in employees, and this has also been empirically shown in much research. Work-family conflict has been shown to partially mediate the relationship between work family friendly policies and perceived stress (Voydanoff, 2005). There is a clear link in the literature between work-family conflict and distress; this has been evidenced in various cultures and professions (Lu et al., 2008; Pal & Saksvik, 2008). Engagement (Kinnunen et al., 2011), drug use (Burke, 1994), anxiety and depression (Donaldson & Grant-Vallone, 2001; Grzywacz & Bass, 2003), and lower energy levels (Googins, 1991) are examples of these stress responses of work-family conflicts that have been shown in employees. In terms of eustress, employee friendly policies have been shown to be an antecedent of eustress (Nelson & Simmons, 2003). Therefore theory would suggest that more positive stress responses should be evidenced in organisations where employees' personal lives are acknowledged by policy. The associations between work-family conflict and stress variables demonstrate the importance of including the

work to family interface in any study of stress. Understanding the full range of pressures on an individual is vital in assessing the way they are appraising and responding to demands.

All the theory and empirical evidence points to a complex relationship between work and family life. It is well demonstrated that there are links between work-family conflict and distress. The literature to date has not investigated these links in terms of eustress so the current study will aim to fill this gap in knowledge. The study will demonstrate how the interference of work commitments on family responsibilities interacts with stressors and stress responses in individuals. Work-family conflict is predicted to moderate the relationships between organisational stressors and stress responses. The expectation is that conflicts in the work-family interface will increase levels of distress caused by poor person-job fit and role overload. In terms of eustress, work-family conflict will reduce or prevent eustress in individuals as they cannot be aroused, energised and fulfilled by work if they don't have the time, resources and energy to fulfil obligations.

H4 (a): Work-family conflict will moderate the relationships between organisational stressors (person-job fit, and role overload) and eustress. Specifically, higher levels of work-family conflict will neutralise the relationships between eustress responses and organisational stressors reducing the indirect effect on affective wellbeing outcomes.

H4 (b): Work-family conflict will moderate the relationships between organisational stressors (person-job fit and role overload) and distress. Specifically, higher levels work-family conflict will enhance the existing distress responses to organisational stressors. This will enhance the indirect effect of person-job fit and role overload on affective wellbeing.

#### 4.3.2 Self-efficacy

Self-efficacy is an important individual difference variable in the study of stress (Jex & Bliese, 1999). Self-efficacy is defined as one's belief they can perform behaviour to produce a particular desired outcome (Bandura, 1977). Self-efficacy influences individuals in multiple ways (Bandura, 1989); cognitively (through feelings of control), behaviourally (via effort, persistence and coping), emotionally (due to levels of apprehensive stress and anxiety) and finally in selection (for example; does the employee actively take up a task). A three way interaction has been evidenced between work demands, self efficacy and coping in terms of their effects on strain (Jex & Bliese, 1999). Higher self-efficacy and problem focused coping strategies have been shown to be associated with lower strain levels in individuals. As workload increased however this effect was reduced as work became unmanageable. Self-efficacy clearly impacts individual's actions, thoughts and feelings; therefore it will be related to the way they respond to stressors. A recent study investigated personality variables (self-efficacy, self-esteem, locus of control and neuroticism) as predictors of stress (Brunborg, 2008). These variables were found to account for a large proportion of variance in job stress. Specifically low levels of self-efficacy were associated with higher levels of distress. Gibbon and colleagues (2008) demonstrated that enactive mastery led to job eustress. Enactive mastery is a term coined by Bandura (1977) and it refers to an individual's past experiences and their attainments. As these factors are linked to increasing self-efficacy we are led to believe that high levels of self-efficacy will lead to eustress. Therefore self-efficacy is important to include in stress research to enhance the understanding of the interaction between individual and organisational variables.

Bandura (1986) proposed that positive self-efficacy was crucial for performance and wellbeing and therefore it is important to consider in stress studies. This study aims to further academic knowledge by including self-efficacy as a moderator of the organisational stressor to stress response and wellbeing relationships. This will advance the literature by linking it to new stressors and investigating self-efficacy's impact on eustress. It has been noted that individual characteristics are important to include in stress models to give a comprehensive view of working situations (Jex & Bliese, 1999). This study will measure general self-efficacy with items based around Bandura's (1977) definition, one's belief they can perform behaviour to produce a particular desired outcome.

H5 (a): Self efficacy will moderate the relationships between organisational stressors (person-job fit, and role overload) and eustress. Specifically, higher levels of self-efficacy will enhance the relationships between eustress responses and organisational stressors enhancing the indirect effect on affective wellbeing outcomes.

H5 (b): Self efficacy will moderate the relationships between organisational stressors (person-job fit, and role overload) and distress. Specifically, higher levels of self-efficacy will reduce the relationship between distress responses and organisational stressors. This will enhance the indirect effect of person-job fit and role overload on affective wellbeing.

## **Method**

### *Sample*

As work stress occurs across job levels and industries, a large international group of participants was recruited from multiple industries and organisational levels.

The aim was to reach a representative sample of the general working population. A total of 140 individuals participated in the survey and the following represents the known demographic information of these participants. The majority of the sample was working in New Zealand with most of this group coming from Christchurch (approximately 54%). The industries individuals were involved in varied drastically (15% sales/retail, 14% business professionals, 13% education/childcare, 11% tourism, 11% trade, 10% hospitality, 6% healthcare, 6% technical role workers and 9% individuals worked in other industries). The majority of participants worked full time (54%) but some also worked part time or casually. Appendix A demonstrates the key demographic information.

### *Measures*

Basic demographic information was collected in the survey as well as six measures corresponding to the organisational stressor, moderator, stress response and wellbeing variables involved in the research. These scales were modified to fit a single scale format of a 5pt likert scale but maintained the original items and instructions. The first page of the survey contained an introduction page explaining the study. This page required participants to consent to be involved in the study (see Appendix B). Demographic information was recorded on the next page in order to ease participants into the study by responding to simple questions first. The following two pages contained the variable measures. The order of the measures was randomised between participants to counteract order effects. The last page of the survey thanked participants and allows them to comment on the survey. This comment option was included to allow any issues or errors in the survey to be revealed. The following outlines the main features of the original measures.

Demographics: Both personal (age, gender, relationship status and dependent children at home) and work related (location, industry, tenure, terms of employment and management role) information was collected. Specific attention in analyses is given to any differences between Christchurch participants and other participants due to the earthquake disaster in this city 8-9 months prior to survey involvement. These groups stress responses and wellbeing outcomes will be compared to ensure there are no significant group differences due to this event.

Person-job fit: The Subjective Person-job Fit (Demands-Abilities and Needs-Supplies) Scale was used to assess person-job fit (Cable & Judge, 1996). The four items are originally measured on a 5pt likert scale from “not at all” to “completely” and an example item is *‘To what extent do your knowledge, skills, and abilities match the requirements of the job?’*. The internal consistency of the scale was shown to be .68 (Cable & Judge, 1996). Although this reliability falls slightly below the common 0.7 alpha rule of thumb this may be due to the low number of items in the measure and the current study found a higher co-efficient of 0.88.

Role overload: Four items adapted from House (1980) and taken from Singh (2000) were used to assess role overload. The items are consistent with the conceptual definition of role overload as specified by Kahn et al. (1964); the extent to which role demands create the perception that available resources are inadequate to deal with them, resulting in distraction and stress. Items are measured on a 5pt likert scale from “never” to “always”. A recent co-efficient alpha for this measure was found to be 0.85 (Brown et al., 2005). The current study replicates this displaying a reliability co-efficient of 0.84. An example item is *‘the amount of work you do interferes with how well the work gets done’*.

Work-family conflict: The Work-family Conflict Scales developed by Netemeyer and colleagues (1996) was used to measure this moderator variable. The scale measures how time demands and strains at work interfere with an individual's family life. The five item scale is responded to on a 7pt likert scale from "strongly disagree" to "strongly agree". An example item is '*The demands of my work interfere with my home and family life*'. Co-efficient alpha estimates ranged from .88 to .89 in the original study and the current study found a cronbach alpha of 0.92.

Self-efficacy: The New General Self-efficacy Scale (Chen, Gully & Eden, 2001) was utilised in this research. The five items are measured with a 5pt likert scale from "strongly agree" to "strongly disagree". An example item is '*I will be able to achieve most of the goals that I have set for myself*'. The co-efficient alphas for the two development samples were 0.85 and 0.86 which was fairly consistent with the cronbach alpha found in the current study of 0.83.

Distress/Eustress: Stress responses measurement utilised the Professional Stress Positive and Negative Questionnaire (SPPN) (De Keyser & Hansez, 1996). This questionnaire deals with both dimensions of stress; distress and eustress. 11 items assess distress (original study displayed a Cronbach's alpha 0.69); an example of these items is '*I find my work mentally exhausting*'. Eight items (Cronbach's alpha 0.78 in the original study and 0.87 in the current study) assess eustress and an example item is '*My work allows for self-fulfilment*'. Principal axis factor analysis performed demonstrated that the distress section of this questionnaire conceptually and statistically overlapped with the role overload measure. Following this the item "*I feel I can't cope with everything I have to do at work*." from the distress measure was removed. After the removal of this item a simple factors structure between these variables was achieved, with no double loadings, which supports that the measures

tapped into distinct constructs. The adapted measure used in this study contained 10 distress items (with a cronbach alpha of 0.86) and 8 eustress items.

Affective wellbeing: Twenty relevant items from the Job-related Affective Well-being Scale (JAWS) were used to assess affective wellbeing (Van Katwy et al., 1999). The measure instructed participants as follows;

*“Below are a number of statements that describe different emotions that a job can make a person feel. Please indicate the amount to which any part of your job (e.g., the work, coworkers, supervisor, clients, pay) has made you feel that emotion in the past 30 days.”*

Emotions stated were rated on a 5pt likert scale from “very rarely” to “very often/always”. The scale showed good validity as it converged well with measures of emotions and affective wellbeing. The co-efficient alpha for this scale in the original study was 0.95. Three items were removed from the wellbeing measure upon examination of principal factor analysis results. The analysis demonstrated that these items statistically intersected with person-job fit and eustress rather than affective wellbeing and appeared conceptually similar to these other constructs on review. The items removed were “*My job made me feel enthusiastic*”, “*My job made me feel excited*” and “*My job made me feel inspired*”. This removal left the affective wellbeing measure with 17 items and a Cronbach alpha of 0.94.

### *Procedure*

The measures were combined into an online survey using the Qualtrics website ([www.qualtrics.com](http://www.qualtrics.com)) which is associated with the University of Canterbury. Participants followed a link to the online survey where they could complete the survey at their convenience. Responses were recorded automatically to a secure online



database. An incentive of the chance to enter a draw for a \$200 grocery voucher was offered to encourage participation. All participant responses were kept completely confidential and the research achieved full ethical approval from the University of Canterbury Human Ethics Committee (Reference: HEC 2011/64).

Participant recruitment was achieved in several ways. Firstly, paper research advertisements were created and posted around the Christchurch community this advertisement can be viewed in Appendix C. The social network site Facebook ([www.facebook.com](http://www.facebook.com)) was utilised with the advertisement being displayed on a public event which was dispersed around the author's contacts. Contacts were encouraged to also invite their contacts to join the event. Finally advertisements were emailed out to randomly selected organisations throughout New Zealand and Australia. Therefore a convenience sample was achieved with participants volunteering to partake.

### *Data analysis*

Due to the complexity of the proposed model, multiple data analyses were conducted. Firstly a mediation analysis was performed. This mediation utilised Hayes and Preachers (2011) *MEDIATE* Macro for SPSS (<http://www.afhayes.com/spss-sas-and-mplus-macros-and-code.html>), which allows for multiple predictors and mediators to be tested simultaneously. These analyses tested the direct and indirect effects of person-job fit and role overload on wellbeing through stress responses. Then, moderated mediation models were tested using the *MODMED* macro for SPSS (<http://www.afhayes.com/spss-sas-and-mplus-macros-and-code.html>) (Preacher, Rucker & Hayes, 2007). These analyses test the conditional indirect effects of each independent variable (person-job fit and role overload) on wellbeing via the mediators (distress and eustress), moderated by either self-efficacy or work-family conflict.

This macro estimated confidence intervals for the indirect effects by utilizing bootstrapping techniques.

## Results

An independent t test comparing group means was performed to determine differences between Christchurch and non-Christchurch residents. This comparative analysis was conducted due to the recent earthquake disaster in Christchurch. The statistics of these tests are displayed in Appendix D. No significant differences in the groups were found in eustress or wellbeing data. Distress however revealed a significant difference between the groups ( $t = -2.285, p < .05$ ). Non-Christchurch resident showed higher levels of distress than Christchurch residents. Due to the overall similarity between the two groups, all analyses were conducted on the total sample.

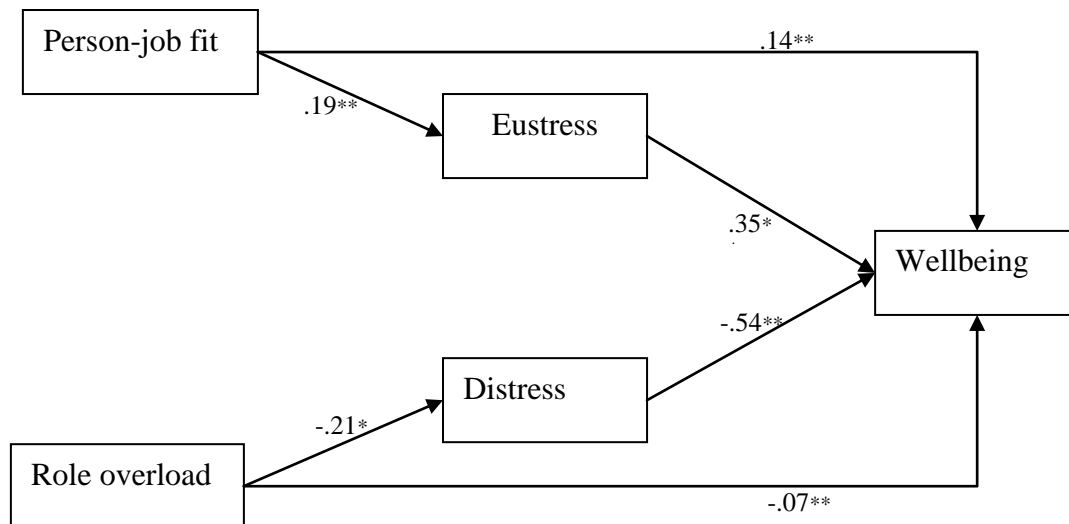
Table 1 demonstrates means, standard deviations and correlations of variables in the model and some demographic items. The correlations begin to demonstrate some of the relationships predicted in the model. An important result to acknowledge is that eustress and distress are not significantly associated which supports current theory that these stress responses are distinct constructs.

**Table 1: Means, Standard Deviations, and Correlations Among Variables.**

Variable	Mean	SD	1	2	3	4	6	7	8	9	10
1. Gender	-	-	-								
2. Age	30.18	11.12	.1	-							
3. Self-efficacy	4.02	.44	.02	.02	-						
4. Work-family conflict	2.48	.91	-.03	.03	-.22*	-					
6. Person-job fit	3.38	.89	.01	.39**	.22*	-.01	-				
7. Role overload	2.70	.82	.06	.03	-.14	.49**	.10	-			
8. Eustress	3.13	.78	.18*	.02*	.13	-.07	.62**	.08	-		
9. Distress	2.24	.65	.07	.04	-.21*	.57**	-.12	.47**	.07	-	
10. Wellbeing	3.47	.059	.05	.10	.28**	.42**	.56**	-.33**	.54**	-.64**	-

Note: \* $p < .05$ , \*\* $p < .01$ .

A mediational analysis was performed to test the effect of organisational stressors on wellbeing both directly and indirectly through the mediators. This mediation model is demonstrated in Figure 4. Results showed that role overload and person-job fit both had a significant direct effect on wellbeing ( $B = -0.07, p < 0.01$  and  $B = 0.14, p = < .01$ , respectively). High role overload was associated with a low wellbeing score whereas person-job fit was positively associated with wellbeing. These antecedents also had some significant indirect effects on wellbeing through the mediators. These effects were in the same direction as the direct effect. Person-job fit influenced wellbeing through the eustress mediator ( $B = 0.19, p < 0.01$ ) whereas role overload impacted wellbeing indirectly through distress ( $B = -0.21, p < 0.05$ ). Significant effects were found for the second path of the indirect effect with eustress and distress being significantly associated with wellbeing ( $B = 0.35, p < 0.01$  and  $B = -0.54, p < 0.01$ , respectively). This analysis supports a partial mediational model. This means that some of the effect of role overload and person-job fit on affective wellbeing occurs via the mediators (distress and eustress), but that there is also a remaining direct effect of the organisational stressors on affective wellbeing. The model appears to explain a large amount of the variation in affective wellbeing through these indirect and direct effects ( $R^2 = 0.78, p < 0.01$ ). The analyses thus far support H1 (a), as there is a positive association between person-job fit and eustress, and H2 (b) demonstrated by the positive association between role overload and distress. However H1(b) and H2(a) are not supported as there were no significant effects on eustress from role overload and no significant effects from person-job fit on distress. H3 (a, b & c) are also confirmed as there is a partial mediation of organisational stressors on wellbeing through stress responses with eustress positively related to wellbeing and distress negatively related to wellbeing.



**Figure 4: Mediation Model.** This figure demonstrates the significant relationships evident in the mediation model including unstandardized coefficients.

Note: \*  $p < .05$  and \*\*  $p < .01$

The final step of this analysis was to test this mediation when the organisational stressor, stress response, and wellbeing linkages were moderated by self-efficacy and work-family conflict. Each organisational stressor's indirect effect on wellbeing through eustress and distress were tested separately for each moderator using the MODMED macro developed by Preacher, et al. (2007). When testing these moderated mediations separately, no significant indirect effects were found for person-job fit on wellbeing through distress. Correspondingly, no significant indirect effects were identified for role overload on wellbeing through eustress. This follows the pattern in the mediation analysis. These results demonstrate that person-job fit acts through positive stress pathways whereas role overload has its effects on the negative stress responses.

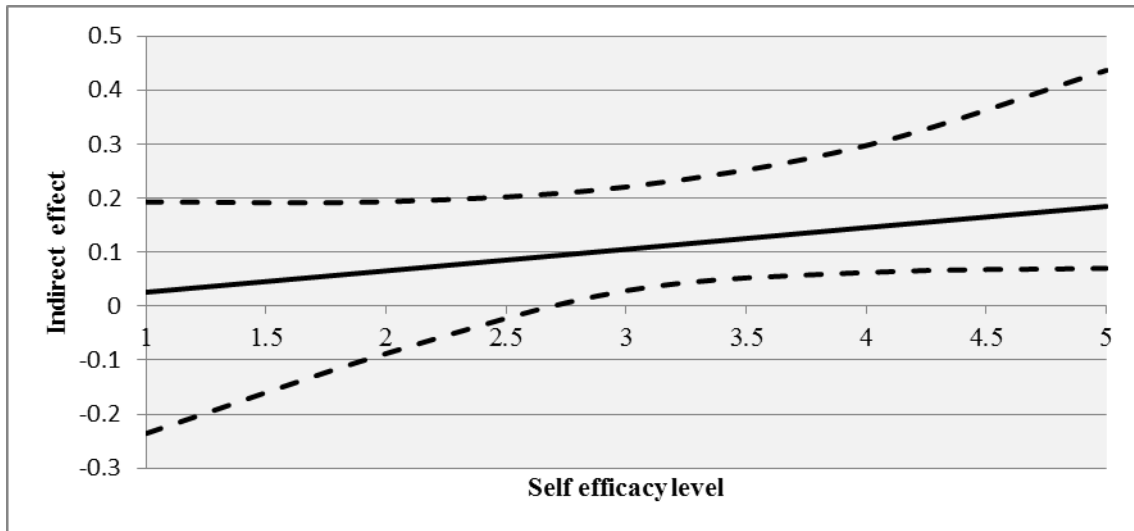
Person-job fit had significant moderated mediations through the eustress path on wellbeing. Self-efficacy was found to moderate the person-job fit to eustress relationship above levels of 2.89. Table 2 demonstrates the results of this moderated mediation.

**Table 2: Moderated Mediation of Person-job Fit and Self-efficacy on Eustress and Wellbeing.**

Mediator Variable Model			
Predictor	B	SE	
Constant	3.34	1.77	
Person-job fit	-0.05	0.38	
Self-efficacy	-0.51	0.33	
Interaction	0.15	0.12	
Dependent Variable Model			
Predictor	B	SE	
Constant	1.28	1.34	
Eustress	0.24**	0.07	
Person-job fit	0.16	0.38	
Self-efficacy	0.18	0.33	
Interaction	0.01	0.09	
Conditional indirect effects at specific values of the moderator			
	Self-efficacy	Indirect effect	SE
	3.58**	0.11	0.04
	4.02**	0.13	0.04
	4.46**	0.15	0.05

Note: \*  $p < .05$  and \*\*  $p < .01$

Results revealed that at average to high levels of self-efficacy, this variable moderated the indirect relationship of person-job fit on wellbeing through eustress. The higher the self-efficacy the larger the influence person-job fit had on eustress and therefore wellbeing. Figure 5 demonstrates this effect at varying levels of self-efficacy.



**Figure 5: Conditional Indirect Effect of Person-job Fit on Wellbeing through Eustress**

**Moderated by Self-efficacy. Figure includes 95% confidence band for the conditional indirect effect.**

Work-family conflict was found to moderate the person-job fit to eustress relationship at all levels of the moderator. Table 3 demonstrates the results of this moderated mediation.

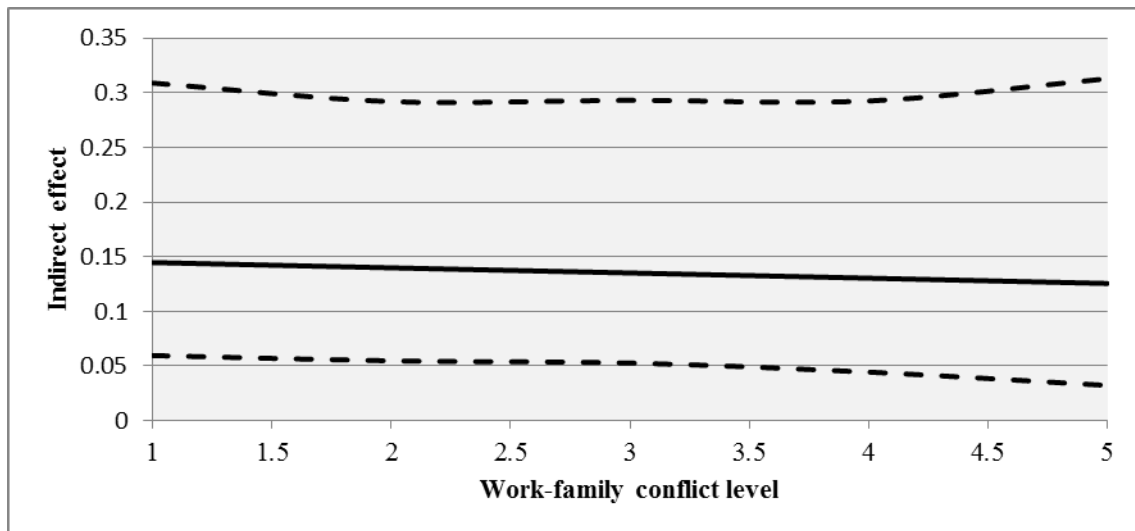
**Table 3: Moderated Mediation of Person-job Fit and Work-family Conflict on Eustress and Wellbeing.**

Mediator Variable Model			
Predictor	B		SE
Constant	1.24*		0.58
Person-job fit	0.59**		0.17
Work-family conflict	0.02		0.22
Interaction	-0.02		0.06
Dependent Variable Model			
Predictor	B		SE
Constant	2.26**		0.39
Eustress	0.22**		0.06
Person-job fit	0.35**		0.12
Work-family conflict	-0.12		0.14
Interaction	-0.04		0.04
Conditional indirect effects at specific values of the moderator			
	Work-family conflict	Indirect effect	SE
	1.60**	0.12	0.04
	2.50**	0.12	0.04
	3.41**	0.11	0.04

**Note:** \*  $p < .05$  and \*\*  $p < .01$

These results have illustrated that work-family conflict moderated the indirect relationship of person-job fit on wellbeing through eustress. The higher the work-family conflict the smaller the influence person-job fit has on eustress and wellbeing.

Figure 6 demonstrates this effect at varying levels of work-family conflict.



**Figure 6: Conditional Indirect Effect of Person-job Fit on Wellbeing through Eustress Moderated by Work-family Conflict. Figure includes 95% confidence band for the conditional indirect effect.**

The indirect effect of role overload on wellbeing through distress was moderated by self-efficacy. Self-efficacy was found to moderate the role overload to distress relationship at high levels ( $>3.51$ ). Table 4 demonstrates the results of this moderated mediation.

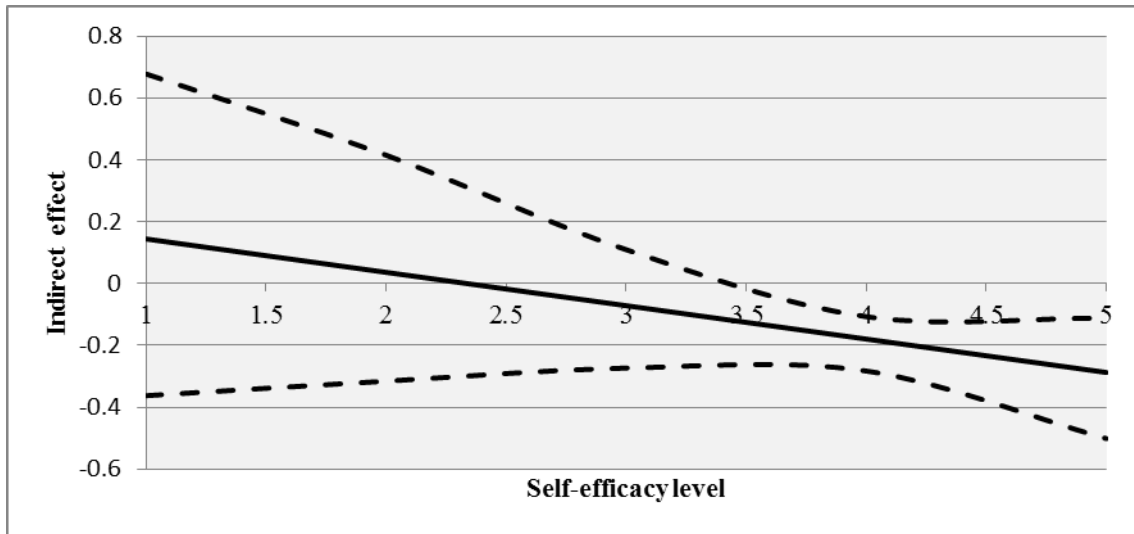
**Table 4: Moderated Mediation of Role Overload and Self-efficacy on Distress and Wellbeing**

Mediator Variable Model			
Predictor	B		SE
Constant	4.74**		1.62
Role overload	-0.65		0.60
Self-efficacy	-.85*		0.39
Interaction	0.25		0.15
Dependent Variable Model			
Predictor	B		SE
Constant	3.15*		1.32
Distress	-0.53		0.07
Role overload	0.25		0.47
Self-efficacy	-0.12		0.14
Interaction	-0.07		0.12
Conditional indirect effects at specific values of the moderator			
	Self-efficacy	Indirect effect	SE
	3.59*	-0.12	0.05
	4.02**	-0.18	0.04
	4.46**	-0.24	0.05

Note: \*  $p < .05$  and \*\*  $p < .01$

Results demonstrate that at high levels self-efficacy moderated the indirect relationship of role overload on wellbeing through distress. The higher the self-efficacy the larger the influence role overload has on distress and therefore wellbeing. Figure 7 demonstrates this effect at varying levels of self-efficacy.





**Figure 7: Conditional Indirect Effect of Role Overload on Wellbeing through Distress**

**Moderated by Self-efficacy. Figure includes 95% confidence band for the conditional indirect effect.**

Work-family conflict was found to moderate the role overload to distress relationship. Table 5 demonstrates the results of this moderated mediation.

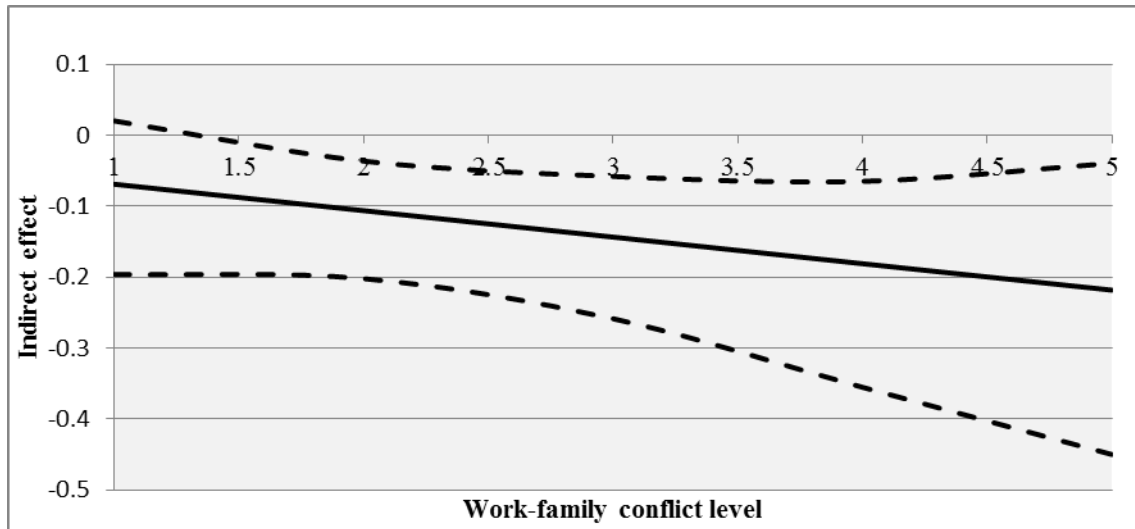
**Table 5: Moderated Mediation of Role Overload and Work-family Conflict on Distress and Wellbeing**

Mediator Variable Model			
Predictor	B	SE	
Constant	1.30**	0.41	
Role overload	0.04	0.16	
Work-family conflict	0.14	0.18	
Interaction	0.07	0.06	
Dependent Variable Model			
Predictor	B	SE	
Constant	5.22**	0.37	
Distress	-0.54**	0.08	
Role overload	-0.16	0.14	
Work-family conflict	-0.23	0.16	
Interaction	0.06	0.05	
Conditional indirect effects at specific values of the moderator			
	Work-family conflict	Indirect effect	SE
	1.59	-0.08	0.05
	2.5**	-0.11	0.04
	3.41**	-0.14	0.05

**Note:** \*  $p < .05$  and \*\*  $p < .01$

These results illustrated that at average to high levels, work-family conflict moderated the indirect relationship of role overload on wellbeing through distress. The higher the

work-family conflict the larger the influence role overload has on distress and therefore wellbeing. Figure 8 demonstrates this effect at varying levels of self-efficacy.



**Figure 8: Conditional Indirect Effect of Role Overload on Wellbeing through Distress Moderated by Work-family Conflict. Figure includes 95% confidence band for the conditional indirect effect.**

The results of these moderated mediations are in line with some of the predicted relationships. H4(a and b) are supported within the significant mediations. This is demonstrated by work-family conflicts, neutralising effect on the relationship between person-job fit, eustress and wellbeing, and its enhancing effect on the relationship between role overload, distress and wellbeing. H5 (a) is also supported for person-job fit evidenced by self-efficacy's enhancing effect on the relationship between person-job fit, eustress and wellbeing. H5 (b) was not confirmed as self-efficacy seemed to increase distress in the significant role overload to distress to wellbeing relationship. This result is in the opposite direction to the prediction which anticipated self-efficacy to reduce distress in role overloaded individuals.

## Discussion

This study aimed to investigate a more holistic model of stress within the work place by focusing on both positive (eustress) and negative (distress) stress. The model proposed tested a mediation model in which stress responses were expected to mediate the relationships between organisational stressors and wellbeing outcomes. Within the mediation framework, two individual difference variables, work-family conflict and self-efficacy, were investigated as possible moderators of the stressor to stress response to wellbeing relationships. This moderated mediation model allowed for a comprehensive investigation of some sources and outcomes of stress within an individual context.

Eustress and distress were evidenced to be distinct constructs of the model; this result aligns with past research (Gibbons et al., 2008). This finding is important as it shows stress is dimensional rather than lying on a continuum. This dimensionality means individuals can experience both distress and eustress simultaneously. It also means organisational variables can impact positive and negative stress in different ways. Wellbeing outcomes can therefore be impacted differently and simultaneously by eustress and distress. This result highlights for organisations that stress management must focus on both sides of stress if they truly want to impact employees' responses and wellbeing.

### *Mediation model*

The mediation model revealed some interesting results. Both direct and some indirect effects were found of organisational stressors on wellbeing. Role overload was negatively related to wellbeing directly, whereas person-job fit was positively associated with wellbeing directly. The significant indirect effects of these

organisational stressors on wellbeing through the mediators (eustress and distress) were in the same direction. Person-job fit influenced wellbeing through the eustress mediator whereas role overload impacted wellbeing indirectly through distress. Both of these mediators demonstrated significant associations with wellbeing, eustress positively and distress negatively. Overall this analysis revealed a partial mediation in which person-job fit influenced wellbeing both directly and indirectly through the positive stress pathway and role overload influenced wellbeing both directly and indirectly through the negative stress pathway. Therefore individuals who have good fit with their job are likely to experience eustress, and in turn be more motivated and satisfied at work (Swody, 2006). This has potential to influence their affective wellbeing positively. On the other hand, in jobs where there is a high role overload, employees have a higher chance of becoming distressed. This distress can lead to multiple negative states such as emotional exhaustion, job dissatisfaction (Blewett et al., 2007; Gelsema et al., 2005) and, as discovered in the current study, low affective wellbeing. The mediation model displayed high explanatory power which suggests that the organisational stressors and moderators assessed are contributing a large proportion of the stress experienced in the workplace.

#### *Moderated mediation model*

This study also tested whether the indirect effects of organisational stressors on wellbeing through stress responses were moderated by self-efficacy and/or work-family conflict. Self-efficacy demonstrated some moderating effects on the indirect effects of organisational stressors on wellbeing. Results revealed that at average to high levels of self-efficacy the indirect relationship of person-job fit on wellbeing through eustress was moderated by this individual variable. The higher an individual's

self-efficacy the larger the influence person-job fit had on eustress and therefore wellbeing. Therefore ultimate motivation and fulfilment will be in individuals with high self-efficacy whom are working in jobs that fit them well. Results also demonstrated that self-efficacy moderated the indirect relationship of role overload on wellbeing through distress. Therefore the higher the self-efficacy the larger the influence role overload has on distress and therefore wellbeing. This means individuals who have strong beliefs in their abilities to perform are most susceptible to becoming distressed when their job involves role overload. This result is contrary to predictions but could be explained through high self-efficacy individuals having false beliefs in their ability. When they begin to struggle at a job they expect to be able to perform, not only are these individuals distressed by their work but by having to reassess their abilities. Role strain, such as this struggling at work, has been demonstrated in past research to have negative effects on self-efficacy (Pearlin, 1983). Alternatively some theory claims self-efficacy is a relatively stable trait maintained by attributional process (Gist, Mitchell & Silver, 1995). The cognitive load required to attribute blame may increase work load and therefore create more distress. Therefore self-efficacy can play a positive role in employee's wellbeing via increasing the positive effects that a good job match creates. It is important however that employees do not experience role overload as the negative impacts of this can challenge self-efficacy and increase negative stress responses and negatively affect wellbeing.

Work-family conflict also demonstrated some significant moderating effects on the mediation model. The results illustrate that work-family conflict moderates the indirect relationship of person-job fit on wellbeing through eustress. The higher the work-family conflict the smaller the influence person-job fit has on eustress and wellbeing. This demonstrates that even if an individual is in a job which fits their

needs and preferences, conflicts between this job and home life can prevent or reduce motivation and fulfilment at work. Reasons for this moderating effect require further investigation but it is possible that jobs with good fit consume more employee time and attention, which in turn could increase work-family conflict. This has been evidenced in past research in which employees who are satisfied with the fit of their job have shown higher levels of job involvement (Adams, King & King, 1996). This involvement at work has in turn increased work-family conflict. Alternatively, conflicts between the work and family interfaces may lead individuals to direct their attention away from family life where they are failing to fulfil responsibilities which again could increase conflict. This effect was demonstrated by Edward & Rothbard's (1999) research which discovered wellbeing effects of fit to be domain specific. It was suggested this result could be explained by individuals attending to domains where misfit was less or could be more easily resolved. This increase in conflicts between the home/family and work interface may decrease individual's general life satisfaction which can decrease fulfilment and motivation at work (Kossek & Ozeki, 1998)

Results also illustrate that work-family conflict moderates the indirect relationship of role overload on wellbeing through distress. The higher the work-family conflict the greater the influence role overload has on distress and therefore wellbeing. Therefore, work-family conflict exacerbates the impact of role overload on distress. In preliminary results, work-family conflict and role overload were associated as was demonstrated in the variables correlations. Role overload encompasses resources not meeting demands at work (Kahn et al., 1964) and work-family conflict relates to work demands interfering with family responsibilities (Netemeyer et al., 1996). In accordance with the scarcity theory (Chapman et al., 1994; Marks, 1977) role overload could use up limited resources and reduce ability to

perform responsibilities at home. Therefore whether work-family conflict is moderating the relationship or whether it is a consequence of high role overload at work is unclear.

Role overload was the only organisational stressor predicted to be positively related to eustress and distress. This impact on distress has been found in past research (Biswas, 2009; Nelson & Simmons, 2003). The current study, despite the fact that reasonable work demands have been related to eustress previously (Nelson & Simmons, 2003), conceptualised that increasing task demands had the potential to arouse and motivate individuals. No solid conclusions can be drawn from the results of this study as, although the relationship between role overload and eustress was positive, it was not significant. It is quite possible that these constructs are not related linearly but in an inverted U-shape relationship. This would mean that there is an optimal level of role demands that motivates and promotes eustress, and levels below and above where role demands may not be 'eustressful'. Further investigation is required into this relationship to discover the nature of this association.

### *Work stress models*

These results can be tied to the job demand-job resource model (Demerouti et al., 2000). The model highlights the factors and processes by which individuals become distressed. Role overload and work-family conflict can be incorporated as demands of the job which produce distress. Person-job fit can be thought of as a resource that helps the individual deal with the demands and therefore reduces distress. Although the current study tested a more complex model than this, the job demand-job resource model presents a simple way to understand stress responses and burnout. Therefore it can provide a valuable framework for the results. This model

has not yet been applied to eustress, but this study highlights that the resources, for example person-job fit, seem to act as a demand and promote eustress. Therefore organisations providing resources to prevent distress may simultaneously be promoting eustress in employees. Applying self-efficacy to this model is difficult as we found high self-efficacy to increase the relationship between person-job fit and eustress while also increasing the association between role overload and distress. This means that individuals with high self-efficacy seem to be more prone to stress responses, both positive and negative.

The results can also be interpreted in relation to the cognitive-transactional model of stress, with affective wellbeing as the outcome variable (Lazarus 1966, 1999; Lazarus & Folkman, 1984). Work-family conflict and self-efficacy are factors which can help explain the complicated part individual differences play in appraisal and stress. These factors influence the appraisal cognitions, how demand is appraised, how ability to cope is appraised and the physical and emotional responses produced. It demonstrates that both job factors and an individual's situation play into this reaction.

### *Methodological considerations*

Although this study has yielded some interesting findings for organisational theory and application, there are some limitations of the current research which must be acknowledged. There are some sample considerations: firstly, sample size. 140 participants was enough to identify significant effects for the study but a larger sample would have produced more sound results and increased the validity of the study. Another aspect of the sample to consider is the sampling procedure. As participants were simply responding to an advertisement, individuals passionate about



their job (positively or negatively), or those who had strong stress experiences may have been more inclined to partake. Future studies should utilise strategic or random sampling to investigate these relationships.

A final sample consideration is the impact of the Canterbury Earthquake disaster which struck about 8-9 months prior to the survey release. Although this seems like a long time post-quake, many workplaces and jobs, as well as individuals, were still impacted by the disaster. From relocations to customer and personnel losses, organisations faced a lot of uncertainty and disruption during this period, which could have affected individual's perspectives on stress. Results found some differences in the distress level of Christchurch residents. Christchurch residents actually appeared less distressed than non-Christchurch residents which lead to the conclusion that this difference is not due to the disaster. Future research in a variety of locations is needed to validate the current study's findings.

An inevitable issue with this type of study is the research methodology employed. Firstly, the exclusive use of self-report scales is often considered subject to method bias (Spector, 2006). This bias is due to the use of a common method between measures. As all variables in the current research were assessed through self-report scales, this bias may be inflating the relationship revealed. Recent claims however have stated that the use of a sole method is not as problematic as claimed (Birkelbach et al., 2010; Spector, 2006). The confidential nature of the study aimed to encourage honest responses in individuals as there was nothing at risk. Future work with more resources could use a multi-method approach to gain a range of perspectives on a workplace situation.

A second method limitation was the cross sectional nature of the study. The directionality of results can be called into question in cross sectional research and

therefore causality cannot be concluded. The conclusions drawn follow conceptual logic and predominately match past theory in the area. However, future studies could utilise longitudinal designs to confirm this directionality. As this area of research is in the early stages and the model proposed was new, a cross sectional sample did prove valuable. Testing this model preliminarily through this method was a good way to assess a model and determine if more resources and longitudinal studies can be justified (Spector, 2006).

A final limitation with this study which needs to be noted is the high explanatory power of the model. In review it seems most likely this result is due to strong associations between the constructs. These associations suggest conceptual overlap of some of the measures. While overlap is common in these complex workplace situations, it becomes problematic when trying to gauge the true effect size of the organisational stressors and moderators on stress responses and wellbeing outcomes. Removal of conceptually similar items from the distress and wellbeing measures helped to clear up results which aided in analysis. Future research could go further utilising multi-method measurement and using different scales in investigation to reduce the overlap further.

### *Implications/applications*

This study has produced some significant findings, which are important for academic understanding, but also for organisations. Firstly, strong associations were found between distress and wellbeing, as in past research (Gelsema et al., 2005). This finding is important for organisations to consider in terms of employees performance and health. New Zealand's Health and Safety in Employment Act (New Zealand Government, 1992) includes stress as a potentially harmful health factor in the work

place. It is stated in the Act that both employers and employees are responsible for ensuring a safe workplace. This act means that not only is it likely to be beneficial for organisations to focus on health and stress, but it is required by law. Organisations must identify demands that led to distress in employees and then manage these demands through interventions. Three levels of interventions have been identified: primary, secondary and tertiary (O'Driscoll & Cooper, 2002). Primary interventions focus on reducing job factors that cause distress and increasing factors which led to wellbeing. These interventions usually take the form of job redesigns or policy changes to affect the climate and structure of an organisation (Gardner & O'Driscoll, 2007). Secondary interventions involve organisations ensuring that employees have all the resources they require to cope with demands. These interventions often involve training to ensure employees have the appropriate competencies needed to perform the job, or forming support groups to aid coping with job demands (Gardner & O'Driscoll, 2007). Tertiary interventions centre on aiding those employees who do get distressed. This level can involve debriefing sessions or providing a contact person who can give employees support (Gardner & O'Driscoll, 2007). This study highlights the part that role overload and work-family conflict have in distress. As suggested in past research, organisations can encourage work-family balance through policies and facilitation (Grzywacz & Bass, 2003), as conflicts between these domains can have organisational outcomes. Organisations must monitor both these factors in stress management and aim to reduce or eliminate the impact on employees.

Conversely, there are many ways organisations can have a positive effect on employee stress and health. Results displayed exciting findings in the promotion of eustress and its positive effects on employee affective wellbeing. In acknowledgment of these positive outcomes, it is important for organisations and managers to work to

promote eustress. Managers can have a large influence on eustress generation (Biswas, 2009). Eustress interventions must begin with investigating and identifying those aspects of work that motivate and fulfil employees (Gardner & O'Driscoll, 2007). Managers can then increase these aspects of work or delegate employees to roles that are dominated by their individual eustress-promoting aspects. Person-job fit seemed to promote this eustress response in employees and therefore could be a good variable for organisations to assess at times of selection and job placement/promotion. Organisations can also utilise training interventions to encourage employees to see demands as challenging rather than threatening (LeFevre et al., 2006). Secondary appraisal can be encouraged to be positive by providing support and resources as well as enhancing employees' self-esteem and self-efficacy.

Overall the current study has produced some practical implications which could aid organisations in stress management and hopefully the overall wellbeing of employees. The study has advanced current academic knowledge through providing a more comprehensive understanding of workplace stress. Firstly, this study advanced knowledge and interest in eustress responses. Secondly, the study has highlighted the influence of individual differences and situations in the organisational stressor to stress response relationship. Eustress and the complex individual to organisational interactions still require much exploration in research. The outcomes of employee stress have been demonstrated in terms of employee wellbeing in this study and organisational performance factors in previous research (MacDonald, 2003). Therefore research needs to investigate the antecedents and possible interventions further to discover how best to prevent employee distress and generate eustress.

### *Conclusions*

In conclusion, this study has provided some evidence for the complex role stress responses have in a workplace context. The study aimed to advance knowledge in the field of workplace stress by investigating both positive (eustress) and negative (distress) stress responses. Person-job fit was found to influence eustress responses, which in turn had positive effects on employee affective wellbeing. Role overload influenced distress, which then negatively impacted affective wellbeing. Self-efficacy moderated these relationships in that individuals with high self-efficacy were more prone to stress responses, both negative and positive. Work-family conflict moderated these relationships by reducing the positive effect of eustress and increasing the negative effect of distress. These findings have implications for organisations highlighting the importance of stress management on employee wellbeing and performance. Organisations need to focus on both reducing distress and promoting eustress in employees. The study prompts interest and highlights the need for more research in the field. Further research will increase understanding about eustress and the complex interaction between organisational variables, individual contexts and stress responses.

## References

- Anderson, C.R. (1977). Locus of control, coping behaviors, and performance in a stress setting: A longitudinal study. *Journal of Applied Psychology*, 62(4), 446-451.
- Ashford, S. J. & Black, J.S. (1992, August). *Self-socialization: Individual tactics to facilitate organizational entry*. Paper presented at the meetings of the Academy of Management, Las Vegas, NV.
- Ashford, S.J. & Black, J.S. (1996). Proactivity during organizational entry: The role of desire for control. *Journal of Applied Psychology*, 81(2), 199-214.
- Avey, J.B., Luthans, F. & Jensen, S.M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. *Human Resource Management*, 48(5), 677– 693.
- Adams, G.A., King, L.A. & King, D.W. (1996). Relationships of job and family involvement, family social support, and work–family conflict with job and life satisfaction. *Journal of Applied Psychology*, 81(4), 411-420.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175-1184.
- Beasley, M., Thompson, T. & Davidson, J. (2003). Resilience in response to life stress: The effects of coping style and cognitive hardiness. *Personality and Individual Differences*, 34, 77-95.

- Birkelbach, D., Dawson, B., Hoffman, B.J. & Lance, C.E. (2010). Method effects, measurement error, and substantive conclusions. *Organizational Research Methods*, 13(3), 435-455.
- Biswas, N. (2009). Creating eustress in the organization: The managerial role. *Mangalmay Journal of Management and Technology*, 3(2), 84-94.
- Blewett, V., Caulfeild, N., Dollard, M.F., LaMontagne, A.D & Shaw, A. (2007). Job stress in the Australian and international health and community services sector: A review of the literature. *International Journal of Stress Management*, 14(4), 417–445.
- Brown, S.P., Jones, E. & Leigh, T.W. (2005). The attenuating effect of role overload on relationships linking self-efficacy and goal level to work performance. *Journal of Applied Psychology*, 90(5), 972–979.
- Brunborg, G.S. (2008). Core self-evaluations: A predictor variable for job stress. *European Psychologist*, 13(2), 96–102.
- Burke, R. J. (1994). Stressful events, work–family conflict, coping, psychological burnout, and well-being among police officers. *Psychological Reports*, 75, 787–800.
- Cable, D.M. & Judge, T. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes*, 67, 294–311.
- Caplan, R., Cobb, S., French, J. R. P., Van Harrison, R., & Peinneau, S. (1975). *Job demands and worker health*. Cincinnati: NIOSH Research Report.
- Chang, T. & Chang, Y. (2007). Relationship between role stress and job performance in salespeople employed by travel agents in Taiwan. *International Journal of Stress Management*, 14(2), 211–223.

- Charatan, E. (1999). Medical errors kill almost 100,000 Americans a year. *British Journal of Guidance & Counselling*, 319, 1519.
- Chapman, N. J., Ingersoll-Dayton, B. & Neal, M. B. (1994). Balancing the multiple roles of work and caregiving for children, adults and elders. In G. W. Keita, & J. J. Hurrell, Jr. (Eds.), *Job stress in a changing workforce: Investigating gender, diversity, and family issues*. Washington, DC: American Psychological Association.
- Clausen, T. (2009). *Psychosocial work characteristics, positive work – related states, and labour market outcomes*. PHD paper.
- Cohen, J. & Single, L. E. (2001). An examination of the perceived impact of flexible work arrangement on professional opportunities in public accounting. *Journal of Business Ethics*, 32(4): 317-9.
- Colligan, T.W. & Higgins, E.M. (2005). Workplace stress: Etiology and consequences. *Journal of Workplace Behavioral Health*, 21(2), 89-98.
- Cooke, R.A. & Rousseau, D.M. (1984). Stress and strain from family roles and work-role expectations. *Journal of Applied Psychology*, 69(2), 252-260.
- Cryer, B., McCraty, R., & Childre, D. (2003). Pull the plug on stress. *Harvard Business Review*, 81(7), 102-7, 118.
- Cummings, B. (2001, November). Sales ruined my personal life. *Sales and Marketing Management*, 153, 44–51.
- Daniels, K. (2000). Measures of five aspects of affective well-being at work. *Human Relations*, 53(2), 275–294.
- Demerouti, E., Bakker, A. B., Nachreiner, F. & Schaufeli, W. B. (2000). A model of burnout and life satisfaction amongst nurses. *Journal of Advanced Nursing*, 32, 454–464.



- Donaldson, S.I. & Grant-Vallone, E.A. (2001). Consequences of work-family conflict on employee well-being over time. *Work & Stress*, 15(3), 214-226.
- Edwards, J.R. & Cooper, C.L. (1988). The impacts of positive psychological states on physical health: A review and theoretical framework. *Social Science and Medicine*, Vol. 27, pp. 1447-59.
- Edward, J. R. & Rothbard, N. P. (1999). Work and family stress and well-being: An examination of person-environment fit in the work and family domains. *Organizational Behavior and Human Decision Processes*, 77, 85–129.
- Firth-Cozens, J. & Greenhalgh, J. (1997). Doctors' perceptions of the links between stress and lowered clinical care. *Social Science and Medicine*, 7, 1017–1021.
- French, J. R. P., Jr., Rodgers, W. & Cobb, S. (1974). Adjustment as person-environment fit. In G. V. Coelho, D. A. Hamburg & J. E. Adams (Eds.), *Coping and adaptation*. New York: Basic Books.
- Gardner, D., Fletcher, R. & McGowan, J. (2006). Positive and negative affective outcomes of occupational stress. *New Zealand Journal of Psychology*, 35(2), 92-99.
- Gardner, D. & O'Driscoll, M. (2007). Professional wellbeing. In I. M. Evans, J. J. Rucklidge & M. O' Driscoll (Eds), *Professional Practice of Psychology in Aotearoa New Zealand* (pp. 245-258). Wellington, New Zealand: The New Zealand Psychological Society Inc.
- Gelsema, T.I., Van Der Doef, M., Maes, S., Akerboom, S. & Verhoeven, C (2005). Job stress in the nursing profession: The influence of organizational and environmental conditions and job characteristics. *International Journal of Stress Management*, 12(3), 222–240.

- Gibbons, C., Dempster, M. & Moutray, M. (2008). Stress and eustress in nursing students. *Journal of Advanced Nursing*, 61(3), 282–290.
- Gist, M.E., Mitchell, T.R. & Silver, W.S. (1995). Responses to Successful and Unsuccessful Performance: The Moderating Effect of Self-Efficacy on the Relationship between Performance and Attributions. *Organizational Behavior and Human Decision Processes*, 62(3), 286–299.
- Googins, B. K. (1991). *Work/family conflicts: Private lives-public responses*. New York: Auburn House.
- Grzywacz, J. G. & Bass, B. L. (2003). Work, family, and mental health: Testing different models of work–family fit. *Journal of Marriage and Family*, 65, 248–61.
- Harrison, R.V. (1978). Person-environment fit and job stress, In Cooper, C.L. and Payne, R. (Eds), *Stress at Work*, Wiley, New York, NY, pp. 175-205.
- Hayes, A. F., & Preacher, K. J. (2011). *Indirect and direct effects of a multicategorical causal agent in statistical mediation analysis*. Manuscript submitted for publication, Ohio State University, Columbus, U.S.A.
- Hochschild, A. R. (1997). *The time bind: When work becomes home and home becomes work*. New York: Metropolitan Books.
- House, J. S. (1980). *Occupational stress and the mental and physical health of factory workers*. Ann Arbor: University of Michigan, Institute for Social Research, Survey Research Center.
- Jex, S.M & Bliese, P.D. (1999). Efficacy beliefs as a moderator of the impact of work-related stressors: A multilevel study. *Journal of Applied Psychology*, 84(3), 349-361.

- Kahn, R. L., Wolfe, D. M., Quinn, R. P. & Snoek, J. D. (1964). *Organizational stress: Studies in role conflict and role ambiguity*. New York: Wiley.
- Karademas, E. C. & Kalantzi-Azizi, A. (2004). The stress process, self-efficacy expectations, and psychological health. *Personality and Individual Differences*, 37(5), 1033-1043.
- Kelloway, K.E. & Day, A. (2005). Building healthy workplaces: Where we need to be. *Canadian Journal of Behavioural Science*, 37(4), 309-298.
- Kinnunen, U., Rantanen, M., Rantanen, J. & Mauno, S. (2011). Do individual coping strategies help or harm in the work–family conflict situation? Examining coping as a moderator between work–family conflict and well-being. *International Journal of Stress Management*, 18(1), 24–48.
- Kossek, E.E. & Ozeki, C. (1998). Work-family conflict, policies and job-life satisfaction relationship: A review and directions for organizational behaviour and human resource research. *Journal of Applied Psychology*, 83(2), 139-149.
- Kristof-Brown, A. L., Zimmerman, R. & Johnson, E. C. (2005). Consequences of individual's fit at work: A meta-analysis of person-job, person-organization, person- group, and person- supervisor fit. *Personnel Psychology*, 58, 281–342.
- Lazarus, R. S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Lazarus, R.S. (1999). *Stress and emotion: A new synthesis*. New York: Springer Publishing.
- Lazarus, R. S. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

- LeFevre, M., Kolt, G.S. & Matheny, J. (2003). Eustress, distress, and interpretation in occupational stress. *Journal of Managerial Psychology*, 18(7/8), 726-744.
- LeFevre, M., Kolt, G.S. & Matheny, J. (2006). Eustress, distress and their interpretation in primary and secondary occupational stress management interventions: which way first? *Journal of Managerial Psychology*, 21(6), 547-565.
- Little, L.M., Simmons, B.L. & Nelson, D.L. (2007). Health among leaders: Positive and negative affect, engagement and burnout, forgiveness and revenge. *Journal of Management Studies*, 44(2), 243–260.
- Lu, L., Kao, F., Chang, T. & Wu, H. (2008). Work/family demands, work flexibility, work/family conflict, and their consequences at work: A national probability sample in Taiwan. *International Journal of Stress Management*, 15(1), 1-21.
- Luthans, F. (2002a). The need for and meaning of positive organizational behaviour. *Journal of Organizational Behavior*, 23(6), 695–706.
- Luthans, F. (2002b). Positive organizational behavior: developing and managing psychological strength. *Academy of Management Executive*, 16, 57–72.
- Macdonald, W. (2003). The impact of job demands and workload on stress and fatigue. *Australian Psychologist*, 38(1), 102-117.
- Macik-Frey, M., Quick, J.C. & Nelson, D.L. (2007). Advances in occupational health: From a stressful beginning to a positive future. *Journal of Management*, 33(6), 809-840.
- MacKenna, E. (2000). *Business Psychology and organisational behaviour*, 3rd ed. Hove, UK: Psychology Press.
- Marks, S. R. (1977). Multiple roles and role strain: Some notes on human energy, time and commitment. *American Sociological Review*, 42, 921-936.

- Maslach, C. (2003). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science*, 12, 189–192.
- Medibank Private Limited (2008). The cost of workplace stress in Australia. Medibank Private Limited Report. Retrieved on 9<sup>th</sup> May 2011 from <http://www.medibank.com.au/Client/Documents/Pdfs/The-Cost-of-Workplace-Stress.pdf>.
- Meier, L.L., Semmer, N.K., Elfering, A. & Jacobshagen, N. (2008). The double meaning of control: Three-way interactions between internal resources, job control, and stressors at work. *Journal of Occupational Health Psychology*, 13(3), 244–258.
- Murphy, L.R. (1995). Occupational stress management: Current status and future direction. *Trends in Organizational Behavior*, 2, 1-14.
- Nelson, D.L. & Simmons, B. L. (2003). Health psychology and work stress: A more positive approach. In Quick, J.C. & Tetrick, L.E. *Handbook of Occupational Health Psychology*. Washington, DC: American Psychological Association.
- Netemeyer, R. G., Boles, J. S. & McMurrian, R. (1996). Development and validation of work–family conflict and family–work conflict scales. *Journal of Applied Psychology*, 81, 400–10.
- O'Driscoll, M. P. & Cooper, C. L. (2002). Job-related stress and burnout. In P. Warr (Ed.), *Psychology at work* (5th ed., pp. 203-228). London, UK: Penguin.
- Örtqvist, D. & Wincent, J. (2006). Prominent consequences of role stress: A meta-analytic review. *International Journal of Stress Management*, 13(4), 399–422.
- Pal, S. & Saksvik, P.O. (2008). Work-family conflict and psychosocial work environment stressors as predictors of job stress in a cross-cultural study. *International Journal of Stress Management*, 15(1), 22–42.

- Pearlin, L.I. (1983) Role strain and personal stress. In H.B. Kaplan (Ed.), *Psychological stress: Trend and theory in research*, pg 1-32. New York: Academic press.
- Peterson, M. F., Smith, P. B., Akande, A., Ayestaran, S., Bochner, S., Callan, V., et al. (1995). Role conflict, ambiguity, and overload: A 21-nation study. *Academy of Management Journal*, 38, 429-452.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Assessing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42, 185-227.
- Quick, J.C., Quick, J.D., Nelson, D.L. & Hurrell, J.J. (1997). *Preventive stress management in organizations*. Washington, DC: American Psychological Association.
- Rothmann, S. (2008). Job satisfaction, occupational stress, burnout and work engagement as components of work-related wellbeing. *SA Journal of Industrial Psychology*, 34(3), 11-16.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39, 1161-1178.
- Ryff, C. D. & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry*, 9, 1–28.
- Sales, S.M. (1970). Some effects of role overload and role underload. *Organisational behaviour and Human performance*, 5, 592-608.
- Schwartz, J.E. & Pickering, T.G. (1996). Work-related stress and blood pressure: Current theoretical models and considerations from a behavioral medicine perspective. *Journal of Occupational Health Psychology*, 1(3), 287-310.

- Schwarzer, R. & Knoll, N. (2003). Positive coping: Mastering demands and searching for meaning. In Lopez, S. J. & Snyder, C. R. (Eds.), *Handbook of Positive Psychological Assessment*. Washington, DC: American Psychological Association.
- Seligman, M.E.P. & M. Csikszentmihalyi (2000). Positive psychology. *American Psychologist*, 55, 5–14.
- Selye, H. (1987). *Stress without distress*. London: Transworld.
- Selye, H. (1975). Confusion and controversy in the stress field. *Journal of Human Stress*, 1(2), 37-44.
- Singh, J. (2000). Performance productivity and quality of frontline employees in service organizations. *Journal of Marketing*, 64, 15–34.
- Spector, P.E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods*, 9(2), 221-232.
- Swody, C.A. (2006). Work-family enrichment: The role of work eustress in spillover of positive psychological states. *Dissertations Collection for University of Connecticut*. Paper AAI3236151. Retrieved from <http://digitalcommons.uconn.edu/dissertations/AAI3236151>.
- The American Institute of Stress (2000). *Job stress*. Retrieved on 9<sup>th</sup> May 2011 from <http://www.stress.org/job.htm?AIS=ff1a2b81a554f34296d9ad426416c5e3>.
- Van Katwyk, P.T., Spector, P.E., Fox, S. & Kelloway, E.K. (2000). Using the Job-Related Affective Well-Being Scale (JAWS) to investigate affective responses to work stressors. *Journal of Occupational Health Psychology*, 5(2), 219-230.
- Voydanoff, P. (2005). Consequences of boundary-spanning demands and resources for work-to-family conflict and perceived stress. *Journal of Occupational Health Psychology*, 10(4), 491–503.

Warr, P. (1990). The measurement of well-being and other aspects of mental health.

*Journal of Occupational Psychology*, 63, 193-210.

Weinberger, D.A., Schwartz, G.E. & Davidson, R.J. (1979). Low-anxious, high-

anxious, and repressive coping styles: Psychometric patterns and behavioural

and physiological responses to stress. *Journal of Abnormal Psychology*, 88,

369-380.

Williams, K. J. & Alliger, G. M. (1994). Role stressors, mood spillover, and

perceptions of work–family conflict in employed parents. *Academy of*

*Management Journal*, 37, 837–868.



## Appendix A

### Frequencies for Demographic and Occupational Variables.

Variable	Group	N	Freq.	Percent	Cumulative Percent
<b>Age</b>		131			
	1. [15,24[		66	50.38	50.38
	2. [25,34[		30	22.90	73.28
	3. [35,44[		18	13.74	87.02
	4. [45,54[		12	9.16	96.18
	5. [55,64[		4	3.05	99.23
	6. > 65 Years		1	0.76	100.00
<b>Gender</b>		132			
	Male		44	33.33	33.33
	Female		88	66.7	100.00
<b>Tenure</b>		140			
	1. [1-6months[		33	23.57	23.57
	2. [7-12months[		17	12.14	35.71
	3. [13-18months[		9	6.43	42.57
	4. [19-24months[		14	10.00	52.57
	5. [25-30months[		5	3.57	56.14
	6. [31-36months[		11	7.86	64.00
<b>Supervisor role</b>		132			
	Yes		55	41.67	41.67
	No		76	58.33	100.00
<b>Children at home</b>		132			
	Yes		33	25.00	25.00
	No		98	75.00	100.00

## Appendix B

### Survey introduction page.

**Positive and negative stress responses: An investigation of organisational stressors, individual moderators and wellbeing outcomes.**

**My name is Frances Walls I am a Masters student at the University of Canterbury, New Zealand studying Applied Psychology. As part of my studies, I am conducting this research focusing on workplace stress management. The aims are to advance knowledge in the field of stress by studying some of the major causes and consequences of stress, considering both positive and negative stress.**

**I would like to invite you to participate in this study by completing a short survey (approximately 15 minutes). To show my appreciation for your involvement, on completion of the study you will have the opportunity to enter a draw to win a \$200 grocery voucher.**

**Participation in this study is completely voluntary and if you do participate, you have the right to withdraw from the study at any time without penalty.**

**Data collected will only be accessible to the authors and data analyst involved in this project. All individual data gathered for this study will be kept completely confidential. All data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years.**

**The current study deals with perceptions of individuals stress and well-being. For individuals sensitive to these issues the study may make these factors more salient which could present some psychological risk. If issues arise during participation remember you have the right to withdraw from the study at anytime and I would also direct your attention to your nations Ministry of Health website.**

**Participants may contact any of the authors with any questions about the study at any stage.  
Researcher: Frances Walls, Phone: +64 0273055937, frances.walls@pg.canterbury.ac.nz  
Senior Supervisor: Joana Kuntz, Phone: +64 3 364 2987, joana.pimentel@canterbury.ac.nz  
Supervisor: Katharina Naswall, Phone: +64 3 364 2552, katharina.naswall@canterbury.ac.nz**

**This study has received ethical approval from the University of Canterbury Research Human Ethics Committee, but any complaints of the ethical standards of the study can be made via contacting:  
The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch.  
human-ethics@canterbury.ac.nz**

**Please tick the box below to consent to take part in the study.**

## Appendix C

Research advertisement.

# **Currently employed? Win \$200 voucher by completing a quick survey.**

Positive and Negative Stress Responses: An investigation of organisational stressors, individual moderators and wellbeing outcomes.

You are invited to take part in a study focusing on workplace stress and motivation being conducted through the University of Canterbury. If you are currently employed in any capacity your contribution would be greatly valued. The survey involves a short questionnaire (10-15 minutes) which can be completed confidentially online. In appreciation for your involvement, on completion of the study you will have the opportunity to enter a draw to win a \$200 grocery voucher.

For further information about the study and/or to complete it simply copy the link below into an internet browser window address bar:

[http://canterbury.qualtrics.com/SE/?SID=SV\\_5baTZrfWv0HKrac](http://canterbury.qualtrics.com/SE/?SID=SV_5baTZrfWv0HKrac)

We want to gather as large and diverse range of opinions so feel free to pass this survey on to friends, family and co-workers. Anyone from any country can partake as long as they are employed in some capacity.

### Appendix D

Mean group differences Christchurch vs. Non-Christchurch residents for Stress Responses (Eustress and Distress) and Wellbeing variables.

	Location	N	Mean	Std. Deviation	Std. Error Mean
Eustress	Christchurch	69	3.11	.80	.10
	Non-Christchurch	55	3.17	.76	.10
Distress	Christchurch	69	2.12	.59	.07
	Non-Christchurch	55	2.39	.71	.10
Wellbeing	Christchurch	69	3.55	.55	.07
	Non-Christchurch	55	3.38	.63	.08

T-test for Equality of Means for Stress Responses (Eustress and Distress) and Wellbeing variables.

	<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Eustress	-.44	122	.66	-.06	.14	Lower	Upper
Distress	-2.28	122	.02	-.27	.12	-.49	-.04
Wellbeing	1.62	122	.11	.17	.11	-.04	.38