

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

**ATTACHMENT ORIENTATION, SOCIAL SUPPORT, AND  
WORK STRAIN IN THE FINANCE SECTOR.**

A thesis presented in partial fulfilment of the requirements  
for the degree of  
Master of Arts  
in  
Psychology

at Massey University, Albany.

Louise Davey  
2003

## **ABSTRACT**

The current research examined whether there is a direct relationship between attachment orientation and work strain in the finance sector, or whether that relationship is either mediated or moderated by social support from significant others and/or fellow employees. Participants were employed in the finance sector in New Zealand (n= 43) and the United Kingdom (n= 39), and completed a self-report questionnaire that measured adult attachment orientation (Experiences in Close Relationships Inventory), perceived social support from significant others (Quality of Relationship Inventory) perceived social support from work sources (Work Environment Scale) and work strain (Perceived Stress Scale). Mediation or moderation did not hold for either of the potential forms of social support, but significant direct effects were found between Anxiety (a key component of attachment orientation) and work strain, between perceptions of social support from significant others and work strain, and between Anxiety and perceptions of social support from significant others, and between Avoidance and perceptions of social support from significant others. These findings imply that attachment orientation and social support should be considered when designing stress management programmes for use within the finance sector.

## **ACKNOWLEDGEMENTS**

My initial thanks go to Dr. Stuart Carr who provided support and confidence along with academic knowledge. Secondly I would like to thank Dr. Richard Fletcher for his constant encouragement.

Thanks to all those who agreed to participate in this study. I appreciate your willingness to complete my personal questionnaire.

My final thanks must go to my mother Gail, my father John, my surrogate family the Browns, my grandmother June, and my special friends Annabel, and Jane. You have all contributed in your own special ways. Without you I would not have been able to complete this thesis.



## TABLE OF CONTENTS

<b>Introduction.....</b>	<b>1</b>
Operational Definitions.....	2
A Conceptual model.....	3
Attachment Theory.....	4
Attachment Styles.....	6
Adult Attachment Orientations in the Workplace.....	8
Social Support.....	9
Perceptions of Social Support from Significant Others.....	15
Possible Work-Family linkages.....	16
Perceptions of Social Support at Work.....	17
Research and Methodological Issues.....	20
Work Strain.....	22
Attachment Orientation and Work Strain.....	23
Attachment Orientation, Perceptions of Social Support and Work Strain.....	24
Hypotheses.....	26
<b>Method.....</b>	<b>28</b>
The Participants.....	28
Measures.....	29
Procedures.....	34
<b>Results.....</b>	<b>37</b>
Psychometric Properties of the Scales.....	37
Descriptive Statistics.....	43
Is Social Support a Mediator between Attachment Orientation and Work Strain?.....	44
Moderation.....	51
Direct Effects.....	58
Posthoc Analyses.....	60
<b>Discussion.....</b>	<b>61</b>
Resume of Findings.....	61
Links to Theory.....	61
Limitations.....	67
Future Research.....	68
Summary of Findings.....	69
<b>Appendix A</b> Information Sheets & Questionnaire.....	<b>85</b>
<b>Appendix B</b> Factor Matrices for the PSS and QRI.....	<b>94</b>
<b>Appendix C</b> Posthoc Analyses.....	<b>95</b>

## LIST OF TABLES

### Table

1. Mean score/item for the depth subscale of the QRI.....	34
2. Factor Matrix for Experiences in Close Relationship Inventory.....	40
3. Factor Matrix for the Work Environment scale.....	42
4. Descriptive statistics for the subscales.....	43
5. Descriptive statistics for the Work Environment Scale.....	44
6. Hierarchical multiple regression analyses of Anxiety, perceptions of social support from a significant others and work strain.....	46
7. Hierarchical multiple regression analyses of Avoidance, perceptions of social support from significant others and work strain.....	47
8. Hierarchical multiple regression analyses of Anxiety, coworker support and work strain.....	48
9. Hierarchical multiple regression analyses of Avoidance, coworker support and work strain.....	49
10. Hierarchical multiple regression analyses of Anxiety, supervisor support and work strain.....	50
11. Hierarchical multiple regression analyses of Avoidance, supervisor support and work strain.....	51
12. Hierarchical multiple regression analyses of Anxiety, perceptions of social support from significant others and work strain.....	53
13. Hierarchical multiple regression analyses of Avoidance, perceptions of social support from significant others and work strain.....	54
14. Hierarchical multiple regression analyses of Anxiety, coworker support and work strain.....	55
15. Hierarchical multiple regression analyses of Avoidance, coworker support and work strain.....	56
16. Hierarchical multiple regression analyses of Anxiety, supervisor support and work strain.....	57

**Table**

17. Hierarchical multiple regression analyses of Avoidance, supervisor support  
and work strain.....58

18. Hierarchical multiple regression analyses of direct effects.....59

## LIST OF FIGURES

### Figure

1. Overview of the theoretical model to be tested.....	2
--	---

## **INTRODUCTION**

Occupational stress is an increasingly apparent phenomenon that is thought to directly affect productivity, absenteeism and turnover (Searle, 2002). Reflecting this, intended changes to the workplace health and safety legislation in New Zealand will see stress and fatigue classified as workplace hazards, so that employees and unions can seek their employers prosecution if they suffer from mental and/or physical exhaustion (Taylor, 2002). One area where such stress is attracting increased attention is in the finance sector. For example, Kahn and Cooper (1993) found that foreign exchange dealers are significantly more stressed than the general population. Consequently, understanding individual differences that predispose finance workers to stress is an emerging important concern for researchers, finance personnel, and employers. This project examines the relationship between an increasingly prominent individual difference variable (attachment orientation), perceived levels of social support (from significant others and work sources) and work strain. In particular, the project asks whether social support from significant others and coworkers intervenes-either as a conduit (or mediator) between the individual's attachment orientation and work strain, or as a buffer (i.e., moderator) on this linkage. Additionally the project asks whether an individual's attachment orientation directly impacts the individual's perceived work strain, and whether social support from significant others or work sources directly impacts work strain. Such questions are important because answers to them may help to gain insight into methods of reducing work strain

## Operational Definitions

The term 'stress' can have several different meanings. In this project, stress is considered primarily at the psychological level. Principally, the present study is concerned with work strain, which refers to the aversive psychological outcomes that result from exposure to stressors (Beehr, 1995). More specifically, the project asks whether an individual's perceived social support networks within the workplace, and from significant others (e.g., spouse, partner, family member) facilitate management of work strain in the finance sector. The notion that perceived social support from significant others facilitates management of work strain can be conceptualised as positive spillover from home to work. Individuals build varying social support networks (Lakey & Cassady, 1990). These include not just familial and close relationship networks, but also social support networks with the workplace and the job itself. As a result, we are interested in the variables that help to build those different perceptions. These variables and their potential functional linkages are presented in Figure 1.

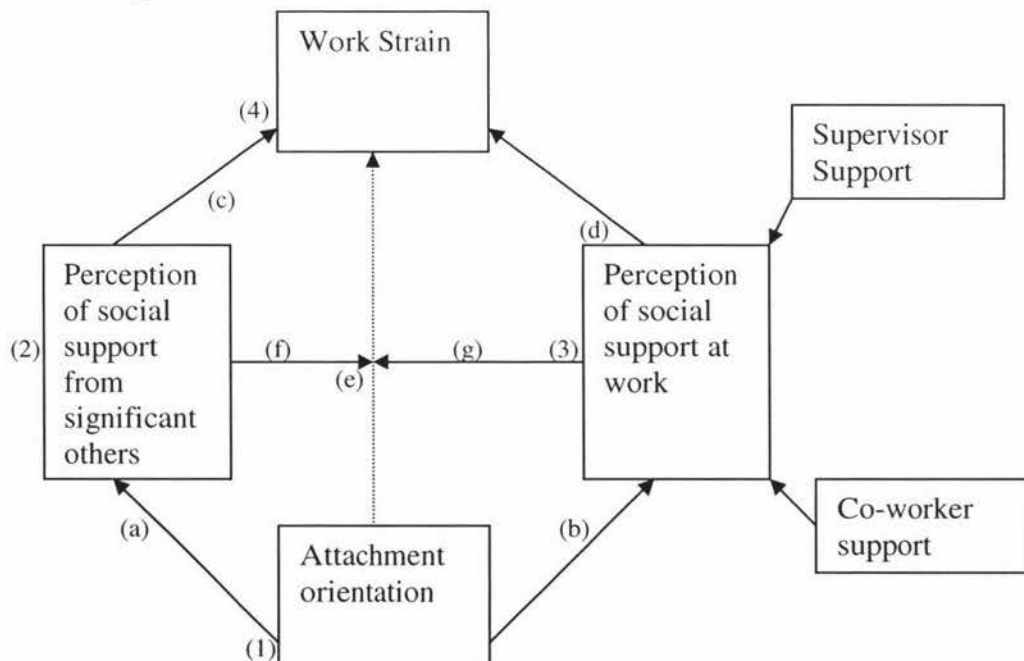


Figure 1. Overview of the theoretical model to be tested

### **A Conceptual Model.**

The model in Figure 1, starts with attachment orientation (1). Broadly speaking this is an individual's disposition to seek proximity to significant others for security and protection in times of stress (Bowlby, 1988). These attachment orientations may depend on perceptions of the individual's own competence and lovability, and their expectations about the accessibility and responsiveness of significant others (Schirmer & Lopez, 2001). These orientations become apparent through the individual's felt security versus insecurity concerning interpersonal relationships. Attachment orientations, which develop from the individual's relationship with his/her primary caregiver as an infant, have been found to determine an individual's perception of social support (Davis, Morris & Kraus, 1998) and work strain outcomes (Schirmer & Lopez, 2001). Also from Figure 1, perception of social support can be broken down into two categories. These are: Perceptions of social support from significant others (2); and perceptions of social support at work (3). Both forms of support have been found to play significant, but independent roles in reducing work strain, for example in the mental health sector (Leiter, 1990). The mechanism for this process of strain reduction is thought to be that perceptions of being cared for, and valued by significant others, enhances sense of well being, which then cushions the psychological impact of environmental stressors (Pierce, Sarason & Sarason, 1992). Functionally such enhanced sense of well being enables the individual to see work problems as more manageable.

From Figure 1, perception of social support at work stems from at least two major categories: Supervisor support; and co-worker support. Supervisor support refers to the degree which employees perceive that supervisors offer employees support, encouragement

and concern (Burke, Borucki & Hurley, 1992). Co-worker support refers to the extent that employees are friendly and supportive of one another (Moos & Insel, 1981). Research has suggested that both supervisor and co-worker support tends to reduce work strain in the retail sector (Babin & Boles, 1996).

From Figure 1, The present study will now explore the links between an individual's attachment orientation (secure versus insecure), perceived social support (partner/workplace superiors and colleagues), and work strain (psychological pressure). This exploration begins with a review of theory relating to each potential linkage in the proposed model.

#### *Attachment theory*

Bowlby (1960, 1973, 1980) proposed that all human beings are born with an attachment system. This system, according to Bowlby, drives individuals to maintain proximity to significant others (attachment figures) in times of stress (Mikulincer, Birnbaum, Woddis & Nachmias, 2000). This desire for proximity to significant others, combined with the nature and quality of our caregivers' responsiveness to this desire, is thought by Bowlby to contribute to both the formation of the individual's self image, and their impressions of trustworthiness and dependability of others to offer assistance in times of distress. Furthermore, these early attachment experiences are also thought to influence individual's interpersonal relations, and so reactions to stress throughout their life (Bowlby 1973). Thus, the theory is potentially relevant to relationships in work life, such as the relationships formed with work colleagues, and superiors, and external relationships, e.g., those formed with clients in the finance sector.



Over the past two decades, interest in the area of attachment theory has burgeoned in popularity. For example, research on attachment theory has investigated attachment patterns associated with romantic relationships (Hazan & Shaver, 1990), coping with divorce adjustment (Birnbaum, Orr, Mikulincer, & Florian, 1997), loneliness (Hazan & Shaver, 1987), physical symptoms (Hazan & Shaver, 1990), worker attitudes and workplace behaviours (Hazan & Shaver, 1990) and most importantly for us - work strain (Hardy & Barkham, 1994). This connection between attachment theory and work strain, renders the concept of attachment orientation directly relevant to this study.

How precisely does attachment orientation develop to this point? Attachment theorists propose that an infant's experience with its caregiver affects its personality development, by contributing to the formation of 'internal working models' (Griffin & Bartholomew 1994). These 'internal working models' are the individual's mental representations of themselves and others. Specifically, these models centre on the persons worthiness of self, and availability and receptiveness of others (Ognibene & Collins, 1998). For example, if a child experiences a loving, consistent and responsive caregiver, that same child should also form an internal working model that includes a positive view both of themselves, and of others. Consequently, the child is likely to explore the world more confidently, initiate warmer and more sociable interactions with others, and find solace in the knowledge that its caregiver(s) are potentially available (Ainsworth, Blehar, Waters & Wall, 1978). This child's internal working model will be based on security and secure attachment orientation during later life. In contrast, a child whose significant other(s) are cold, rejecting, unpredictable, frightening, or insensitive, learns that other(s) cannot be depended upon for

support and comfort, and this knowledge is embodied in internal working models of attachment that are insecure. The child is likely to regulate his or her behaviour accordingly, either by excessively demanding attention and care or by withdrawing from others and attempting to achieve a high degree of self-sufficiency (Main, 1990). These internal working models are thought to dispose the person toward one of a limited range of interpersonal orientations in managing the experience of insecurity in later relationships (Schirmer & Lopez, 2001). Those orientations in turn can be conceptualised as different “Attachment Styles”.

#### *Attachment Styles*

Although attachment is either secure or insecure Ainsworth, Blehar, Waters, and Wall (1978) conceptualised three major attachment styles. Initially, three styles were defined empirically. During an experiment known as the “Strange Situation”, infants were observed in stressful situations. For example they were separated from their caregivers to assess the infant’s ability to utilise the parent as a safe haven and secure base. The three attachment styles identified by Ainsworth et al., (1978) comprised one secure style: (Secure) in addition to the two insecure styles: (Anxious-Ambivalent, and Avoidant). “Secure” infants exhibited distress when separated from their mothers, but were calmed on reunion; and then resumed their independent exploratory behaviours. Infants classified as Anxious-Ambivalent however demonstrated significant distress when separated from their mother. In particular, on their mothers’ return, they displayed anger. Infants classified as “Avoidant” appeared undistressed by their mother’s departure, and did not seek proximity on her return (Lopez & Brennan, 2000). Thus, their response was more indifferent or relatively cold. Infants are either overly cold (Avoidant), overly hot (often cloying)

(Anxious-Ambivalent), or somewhere more balanced in-between (secure). Later on in life, Ainsworth and Bowlby have suggested, Anxious-Ambivalent individuals will crave social support, and Avoidant individuals will not care too much about it, and those with a secure attachment style will be more moderately bolstered by it. Such tendencies will thus affect capacities to form relationships, either with close partners or fellow employees, or customers and clients, and in that way influence the individual's capacity to manage occupational strain.

Bowlby for example maintains that these attachment patterns formed as infants are stable, and act as templates for feelings of security with interpersonal relationships throughout an individual's adult life (1979). Research generally has supported this idea. In a landmark study with adult participants, Hazan and Shaver (1987) extended the research conducted by Ainsworth et al., (1978). These authors translated the infant-caregiver attachment patterns to adult behaviour patterns in romantic relationships. They found that Ainsworth's three patterns of attachment were evident in the way adults think, behave, and feel in their close relationships. For example, 'secure' individuals reported love experiences that include feelings of happiness, support, and trust. 'Avoidant' individuals reported fear of intimacy and jealousy. And Anxious-Ambivalent individuals experienced love as an obsessional need for reciprocation and union, emotional highs and lows and intense sexual attraction and jealousy. These findings suggest that early working models of self and others are carried forward into adulthood, where they continue to guide personal and interpersonal functioning. Attachment patterns are likely thus, to effect the formation of interpersonal relationships, in both the non-work and work context.

This project extends the research of attachment theorists, such as Hazan & Shaver. It does so by linking adult attachment patterns to the work place, specifically the finance sector. Work strain is especially prevalent in this sector, due to the stressful nature of the work. For example, strain stems from factors such as extreme pressures to perform, and salaries based on this performance (i.e., bonuses), frequent client interaction, computer usage, work overload/long hours worked (Kahn & Cooper, 1996). The psychological effects (i.e., strain) of these factors are compounded by difficult global economic conditions, which have given rise to an increased threat of redundancy. Accordingly, the purpose of our study is to determine the perceived levels of work strain experienced by employees in the finance sector, and how, precisely, their attachment orientation functions as a predictor of these, either directly or indirectly through levels of social support.

#### *Adult Attachment Orientations in the Workplace*

Hazan and Shaver (1990) were first to apply attachment theory to the workplace. They argued that adult love (a) and work (b) can be seen as being functionally parallel to attachment (a) and exploration (b) in childhood. This claim was backed up by Hardy and Barkham (1994). In their study, Hazan and Shaver found that employees with a 'secure' attachment style experienced: Fewer worries about performance and colleagues; higher levels of job satisfaction; work that did not endanger their health or relationships; and most importantly lowered work strain. Moreover, in contrast to this tendency, 'Anxious-ambivalent' individuals were likely to use work as a method of gaining approval, which would lead to a desire for working with others, a tendency to become over-obligated, feeling under-appreciated, and a loss of self-esteem. For these individuals, love concerns frequently interfered with work performance, and they often worried about rejection for

poor performance, thus they experienced higher levels of strain. 'Avoidant' respondents reported using work activity to avoid social interaction, and that their work 'interfered' with their social life. They tended to work long hours, take fewer holidays, and preferred working alone. This could be particularly problematic where many jobs require that employees interact with clients. Specifically for example salespeople in the finance sector. Additionally in the Hazan and Shaver study, 'Avoidant' individuals reported working at the cost of their health and relationships, and they reported being less satisfied with their work than their secure peers. Finally, compared to 'Secure' respondents, 'Insecure' respondents reported more depression, Anxiety, loneliness and irritability. From this study Hazan & Shaver concluded, insecurely attached individuals will probably experience a higher degree of work strain. The present study will test this proposition, via a measure of adult attachment orientation, in the finance sector.

### *Social Support*

The implication of Hazan and Shaver's work is that attachment styles facilitate relationships, and that these relationships somehow 'cushion' the impact of work-place stressors. In the literature, such support mechanisms are termed for obvious reasons, social support.

Conceptually, social support has actually been defined in a number of ways (Fenlason & Beehr, 1994; Jayaratne, Himle & Chess, 1988). However the present study views social support as being comprised of two main components: Instrumental support, which is characterised by tangible assistance, such as physical assistance or aid in the form of advice or knowledge needed to complete a task; and Emotional support, that is characterised by

actions of caring or listening sympathetically to another person (Pines, Aronson & Kafry, 1981). Thus, at least half of the forms of social support are related to interpersonal relationships, and so conceivably attachment orientations. Specifically, those individuals who form strong interpersonal relationships (secure attachment orientation), may be more likely to perceive more emotional support from both significant others and work sources, than people whose attachment patterns are 'insecure'.

Previous research has found that various support providers (parents, friends, lovers and work colleagues) and the form of social support (i.e., instrumental support, emotional support) interact with particular stressors to produce different degrees of strain (Mikulincer, Bucholtz & Florian, 1995; Hagihara, Tarumi & Miller, 1998). Additionally, it may matter whether the source of social support are independent of source of the strain (Blau, 1981; Kaufmann & Beehr, 1986; Ganster, Fusilier & Mayes, 1986). Therefore it is important that the present research considers the multidimensional makeup of social support, and separates the various components of social support, so that each is assessed independently to evaluate the effectiveness of the various providers (e.g., significant others, supervisors and co-workers) and forms. The present study deals with these issues by separating the providers of support into work and non-work to independently assess their relative impacts on the source of strain (work). Additionally the effectiveness of both forms of support (instrumental and emotional) are encompassed by the measures selected.

Although work strain models often give social support an important role, the exact role of social support is unclear (Fenlason & Beehr, 1994). For example, some researchers propose that social support has a moderating effect on work strain (Cohen & Wills, 1985). Yet

others propose that social support has a direct effect on work strain (Beehr, 1985). Few researchers, meanwhile, espouse a mediational effect (e.g., Viswesvaran, Sanchez & Fisher, 1999). Thus far, the jury is still out on which effect predominates (Frone, Russell & Cooper, 1995). That state of indecision is depicted in Figure 1. Figure 1 illustrates the three basic ways that social support can affect the attachment orientation-work strain relationship. Those three effects will now be discussed in turn.

**Mediation effect:** The majority of reviews have focused on the evidence for the direct effects and moderating effects of social support (Viswesvaran et al., 1999). Very few researchers have examined the mediational hypothesis of social support in detail.

Baron and Kenny (1986) propose that a variable functions as a mediator to the extent that it accounts for the relation between the predictor and the criterion. Specifically, the mediational hypothesis implies a causal chain. For example, attachment orientation determines an individual's perceived social support, which in turn dictates the levels of work strain experienced by them. To illustrate how this might work in the finance sector, we might imagine a predominantly 'Anxious-Ambivalent' individual (i.e., somebody who cannot relate to work colleagues). This person would be incapable of cultivating any real social support from work colleagues or significant others, and as a direct result of this, experience work strain. 'Secure' others, however would escape this strain because they have the ability to form strong interpersonal relationships with their peers. An extreme example of an 'Anxious-Ambivalent' individual would be a salesperson who does not get on well with colleagues, and as a direct result of this is experiencing problems with clients; or a finance sector worker with similar interpersonal deficits. In each case, the strain that

results from problems with clients stems directly from a lack of support from colleagues, which in turn stems from insecure attachment patterns.

**Moderating Effect:** The moderating hypothesis proposes that attachment orientation is more closely related to strain when social support is absent. An example would be an individual's high level of perceived work strain is reduced by a high level of perceived social support from work colleagues. From Fig 1 (f,g), the moderating link builds upon the direct relationship by suggesting a relationship between attachment orientation and work strain, that is stronger for those individuals with either high or low levels of social support (from significant others, coworkers or supervisors). Specifically, social support buffers individuals from potentially pathogenic effects of stressful events, as support may provide a partial solution to the problem (Cohen & Wills, 1985).

The notion that social support acts as moderator (or buffer) of the work strain relationship has received considerable support. For example, Abdel-Halim (1982) found, that support from work colleagues and superiors significantly buffered work related strain and affective responses on the job, amongst a sample of middle-lower managerial personnel employed in a manufacturing firm. In another study, Etzion (1984) found the relationship between stressors and work strain was moderated by social support for both male and female managers and human service professionals.

The evidence for moderation is not however consistent. Other authors have found support for a reverse moderating effect. This means that high levels of social support exacerbate the strain outcome (Kaufman & Beehr, 1986; Chen, Popovich & Kogan, 1997). However,



Kaufman and Beehr (1986) proposed that “reverse buffering” maybe dependent upon source of social support. For example if the supervisor is causing the stress and the supervisor approaches a subordinate to offer support, this may be interpreted as being stressful, alternatively social support from work colleagues may convince the employee that the situation is indeed terrible (Kaufman & Beehr, 1986; Pelfrene, Vlerick, Kittel, Mak, Kornitzer & De Backer, 2002). For these reasons, Kaufman & Beehr, and Pelfrene et al., conclude that the source of the stressor and the content of supportive communication should be incorporated into future studies. Thus, we will examine the effectiveness of support from both co-workers, supervisors and non-work sources in an attempt to isolate the source of support that is the most valuable in reducing work strain. Furthermore, we may find that supervisor, co-worker and/or non-work support actually increases work strain in the finance sector.

**Direct Effect:** From Fig 1, there are five potential direct effects. The first, and most dramatic, lies between attachment orientation and work strain (See Fig 1. e). According to this hypothesised linkage, insecure individuals might perceive higher work strain due to inbuilt high Anxiety levels, and so will invariably find their job harder than secure individuals, who in turn are better able to deal with job demands, and so experience less strain. This means that high/low perceptions of social support would not have any effect on their work strain. Such a finding would provide dramatic support for attachment theory, because applying attachment orientations to work strain in the finance sector strengthens the importance of attachment theory by demonstrating that the theory is applicable to a wide range of contexts.

From Figure 1, additional direct effects potentially lie between social support and work strain (See fig 1 c,d.) That is, perceptions of social support function independently of attachment orientation on work strain). For example, Cohen & Wills (1985) found in their review of studies, that individuals who have at least one person in whom they can confide, appear to be less vulnerable to the effects of strain. This is because conceivably social support contributes to both psychological and physical health (Cobb, 1976; Thomas & Ganster 1995; Kobasa & Puccetti, 1983; Monnier, Stone, Hobfall, & Johnson, 1998).

The fourth and fifth possible direct effect is between attachment orientation and perception of social support from significant others (See fig 1, a), and between attachment orientation and perception of social support at work (See fig 1, b). According to this potential linkage, 'secure' individuals will tend to perceive higher levels of social support due to their positive internal image of the self and of other people, and this will better enable them to cultivate supportive close relationships with significant others and in their work place (Sarason, Pierce & Sarason, 1990).

From fig 1, direct effects are present if either paths a, b c d or e are statistically significant. By determining the relative strengths of the direct, moderating or mediating effects, this research addresses a crucial question for organisations and individuals attempting to manage organisational strain. This is whether individuals' perceptions of social support are dependent upon dispositional factors (i.e. attachment orientation), which in turn determine their perceived work strain (mediation), or does social support function as a buffer for stress, who can either raise or lower the strain but not completely control it (moderators). Alternatively does social support work have a generalised beneficial effect, because large

social networks provide persons with regular positive experiences and a set of stable, socially rewarded roles in the workplace (direct effect). This kind of support could be related to overall well-being, because it provides positive affect; a sense of predictability; stability in one's life situation; and a recognition of self worth (Cohen & Wills, 1985).

*Perceptions of social support from significant others (e.g., spouse, partner, family, close friends).*

Social support from work-related sources probably plays a more salient role in reducing work strain, than support from non-work-related sources, because the support stems from sources in the actual context of the stressful situation (Beehr, 1985). This idea has been called "the matching hypothesis" since the support is closer to the action, and therefore conceivably more directly protective against work strain (Braboy Jackson, 1992). Ganster et al., (1986) found support from supervisor and co-worker to be more beneficial than support from family and friends. However support from non-work sources also reduces work strain (Adams King & King, 1996). For example, Boey (1999) found family support acts as a stress resistant factor during a study of stress resistance amongst nurses. Caplan, Cobb, French, Harrison & Pinneau (1975) concluded that both work and home support has beneficial effects on psychosocial strain, e.g., depression & Anxiety. Tyler and Cushway (1995) found that nurses with partners showed fewer symptoms of Anxiety, severe depression and social dysfunction compared to nurses who were unpartnered. Greenglass, Fiksenbaum and Burke (1995) found that support from family and friends had a more significant effect than work support (supervisor & coworker) on buffering work stress amongst teachers. Greenglass et al., (1995) maintained that, under conditions of high stress and high social support from significant others (i.e., at home) perceived work strain is

lower because the non-work support ‘inoculates’ the individual against the deleterious effects of work strain (i.e, non-work support boosts emotional ‘reserves’ to fight the strain much as a vaccination injection boosts the immune system’s capacity to fight infections). Overall, and as depicted in Figure 1, previous findings indicate that non-work support may make an independent contribution from work support on work strain (Leiter, 1990).

#### *Possible Work –family linkages.*

The idea of non-work relationships influencing workplace strain suggests a linkage between home and work contexts, and the possibility of a spillover between one context and the next. For example support in one context bolsters capacity to resist strain in another (at work). This kind of interplay between work and non-work, especially between family and work, has become a focus of academic interest (Zedeck, 1992). According to Lambert (1990), spillover theory suggests that an individual’s experience in one domain affects their experience in another. Spillover theory is just one of three theories that characterise the work family linkage process. The remaining two theories are segmentation and compensation theory. Segmentation theory asserts that work and home are independent, and therefore do not affect each other (Kirchmeyer, 1992). Compensation theory proposes that individuals attempt to compensate for lack of satisfaction in work or home, by searching for more satisfaction in the other domain (Canan Sumer & Knight, 2001).

The point of these three theories is that it is by no means certain that social support from sources outside of work will automatically transfer to work. Applying work family linkage research to the present study, positive spillover would be evident if perceptions of social support from significant others applied to the work context by reducing work strain.

Specifically, if there was a significant direct effect between perceptions of social support from significant others and work strain, or perceptions of social support from significant others mediated the relationship between attachment orientation and work strain. In support of this possibility, Canan Sumer and Knight (2001) found (using a sample of American university employees) that secure individuals were more likely to perceive support from nonwork sources. Consequently, these secure individuals would employ those social support systems to reduce strain that stemmed from their work environment. Testing the segmentation and compensation models requires that we measure the individual's level of satisfaction derived from both the work and non-work domains. Determining these levels of satisfaction is necessary to ascertain whether levels of satisfaction in one domain are having an effect on satisfaction levels of the other domain. This however, is beyond the scope of this research.

#### *Perceptions of Social Support at Work*

Several studies have demonstrated the positive effects of strong social support at work on work outcomes. For example, supervisor and peer support have been found to create a more positive work environment (Carlson & Perrewe, 1999), enhanced job satisfaction (Ganster et al., 1986) reduced burnout (Etzion, 1984; Leiter 1991, Eisenberger, Huntington, Huchison & Sowa, 1986), and most importantly reduced job-related strain (Cohen & Wills, 1985). Additionally perceptions of social support tend to reduce absenteeism (Unden, 1996). Based on these findings, the present study proposes that perceptions of strong social support at work (co-worker and supervisor) should reduce or eliminate perceptions of work strain.

Given that there are various providers of work support (e.g., supervisors and coworkers), it is important that the effects of these providers of support are assessed separately. In support of this notion, Ducharme and Martin (2000) found that different types and providers of support can produce varying outcomes (Hagihara et al., 1998). These are: support from coworkers had a stronger effect on reducing work strain for those who received contradictory directions from management and supervisor support had a stronger effect on reducing work strain for those who received consistent directions from management. Therefore we will test the influence of perceived levels of supervisor and coworker support independently to gauge whether they have separate effects on work strain.

Social support particularly from supervisors, is thought to alleviate work strain (House & Wells, 1978; Fenlason & Beehr, 1994; Ganster et al., 1986; Leiter, 1991; House, McMichael, Wells, Kaplan & Landerman, 1979). Additionally Geller & Hobfall (1994) found that feelings of tedium and exhaustion at work were associated with low levels of support from supervisors and co-workers, and therefore higher work strain levels. In addition, Savery (1986) found that an employee's immediate manager was perceived as most useful in reducing stress, followed by peer group and then by friends and relatives. Fenlason and Beehr (1995) maintain that supervisor support has the strongest impact on work strain as supervisors are the most influential at work.

Supervisor support may reduce the level work strain experienced by an individual, because communicating with the supervisor can increase the employee's sense of control over a stressful situation. Marcus and House (1973) maintain that social support from supervisors de-emphasises status differentials, and promotes a supportive work environment, therefore

supervisor support can generate lower strain levels amongst employee's. Also, supervisor support might lead to participative decision-making, which can result in feelings of empowerment on behalf of the employee, and reassurance of worth. Furthermore, supervisors may provide instrumental support for example training programmes. Additionally, supervisor support can enable a person to make a more realistic appraisal of problems they are experiencing. They may learn that their problems are common to others and that others have experienced such problems and found solutions before. In sum, supervisor support (e.g., knowledge, advice and expertise) can alleviate work strain.

In addition to research supporting the usefulness of supervisor support in reducing work strain, previous research has found that co-worker support has a positive impact on an individual's level of work strain (Ganster et al., 1986). For reasons such as; allowing employees to talk about both the positive and negative aspects of work, saying pleasant things can be therapeutic, and negative conversations can trigger a healing emotional release (Fenlason & Beehr, 1994). Perceptions of social support from co-workers may enable employees to realise others have encountered and overcome similar problems. Additionally, employees may talk more freely with coworkers than they would with their supervisor. As a result, they may discover solutions to issues through perceiving coworker support that may not locate via perceptions of supervisor support. Co-worker support maybe more appropriate than supervisor support when problems are ambiguous or personal e.g., Anxiety (Jayaratne et al., 1988). Furthermore, LaRocco, et al., (1980) found co-worker support to be more significant in mitigating work strain than supervisor support. Furthermore, a work environment characterised by low co-worker support can be a source of work strain due to factors such as feelings of isolation and low confidence. For example

Levinson, (1973) found individuals who were hard-driving and abrasive in nature caused stress for other work colleagues.

In sum, previous research has explored the role of social support from co-workers and supervisor in alleviating work strain. These studies have found that both coworker and supervisor support have independent effects on employees perceived work strain (Unden, 1996; Fenlason & Beehr, 1994). Therefore it is important that the present study includes both co-worker and supervisor support when investigating variables that influence work strain in the finance sector.

#### *Research and Methodological issues*

Research and methodological issues are mentioned in a large amount of the empirical research conducted on social support (Cohen & Syme, 1985, cited in Pierce, Sarason & Sarason, 1996). These research and methodological issues are considered important because they have been blamed for many of the inconclusive results concerning the effectiveness of social support. For example, some researchers believe that social support measures should focus on general rather than relationship specific perceptions of support. General perceptions of support are an individual's beliefs about whether others, in general, are likely to provide assistance and emotional support when required (Sarason, Shearin, Pierce & Sarason, 1987). Relationship specific perceptions of support are expectations about the availability of social support regarding specific significant relationships (Pierce, Sarason, & Sarason, 1991). Pierce, et al., (1992) maintain that researchers should focus on relationship specific measures of support as a substantial proportion of support people receive stems from a small group of significant others (Cutrona, 1989; Dakof &



Taylor,1990; Procidano & Heller, 1983). When individuals appraise social support behaviours of significant others they consider their behaviour in the context of relationship specific framework rather than their generalised view. Based on such research, the present study will use only relationship specific measures of support as in the Quality of Relationship Inventory, which concerns their perceptions of support from a specific person e.g., partner, family member, and examine relationship specific support in the work environment e.g., supervisor support and co-worker support.

Another research issue that has been blamed for previous inconsistent findings is whether social support should be regarded as an environmental (i.e., objective) rather than an individual difference (i.e., subjective) variable. Sarason, Sarason & Shearin (1986) suggest that individual differences should be accounted for, due to disparities between the way individuals view and deal with support environment, and that these individual difference variables impact the outcome of social support. Therefore individual differences should be considered when assessing the ability of social support to mitigate stress. The present study aims to take individual differences into account by examining perceived social support rather than received support: Perceived social support refers to people's perceptions that they are loved, valued and esteemed by others, whereas received support are 'social resources' (e.g., frequency of interaction with friends) that are provided to the recipient, in spite of how the recipient interprets the provider (Pierce et al., 1992). Furthermore, Jayaratne et al., (1988) found that the probability of the individual using available support appears to be a function of their perceptions of social support. Therefore, it is appropriate that the present research explore the participant's perceptions of social support, rather than objective measures.

### *Work Strain*

As shown in figure 1 (4), work strain is central to the present study. Over the past two decades, hundreds of studies in the work strain domain have addressed the extent to which environmental stressors (e.g., role ambiguity, role overload) impact on employee health and well being (Spector, Chen & O'Connell, 2000). However the present research is primarily concerned with the role of individual difference variables in an individual's experience of work strain. The foundation underlying this approach is that an individual's felt work strain depends not only on the characteristics of the work environment stressors, but also on relatively stable 'dispositional' differences amongst employees, which influence their resilience to experience positive or negative reactions to the job (Jex & Spector, 1991).

Previous research has found strong support for the proposal that personality characteristics operate as resilience factors against work strain (Paton, Smith, Violanti & Eranen, 2000). The most frequently identified personality characteristics include locus of control, negative affectivity and type A personality, hardiness and self esteem. For example, Rahim (1996) found managers who had a higher internal locus of control were better able to deal with stress (Johnson & Sarason, 1978). Moyle (1995) found individuals who scored highly on negative affectivity (NA) generally experienced poorer well being, and were more vulnerable to environmental stressors than their low NA counterparts. Type A individuals are thought to be more susceptible to work stressors for example role overload (Froggat & Cotton, 1987), and hardy individuals were found to remain healthy when faced with stressful conditions, and non-hardy were more likely to become ill (Kobasa, 1982). Pierce, Gardner, and Dunham (1993) found high self-esteem workers were less vulnerable than

low self-esteem workers to stressful demands of work (Boey, 1999; Ganster & Schaubroeck, 1995).

#### *Attachment Orientation & Work Strain*

The present study aims to build on previous research by including another 'personality' variable: attachment orientation. This study tests whether attachment orientation might be a central personality characteristic. Conceptually, Attachment Theory traces many of the personality variables already known to be related to strain (e.g., self esteem, sense of coping) back to attachment orientation. For example, those with a secure attachment orientation have high self esteem and an internal locus of control, which in turn enables them to see problems as more manageable, thus they experience less work strain. The theory claims that these traits (e.g., self esteem, locus of control, sense of coping) all share a common beginning. Recent research that assessed the ways individuals cope with combat training emphasised the contribution of individual differences in attachment orientation to the cognitive, emotional and behavioural outcomes of stressful events (Mikulincer & Florian, 1995). The practical implication of this research is that to ameliorate work strain aetiology, personality characteristics such as attachment orientation must be better understood, rather than simply measuring the environmental stressor-strain relationship.

A number of studies have found support for a direct relationship between attachment orientation and response to strain (see figure 1, e): Secure attachment buffers against the effects of stressors and against the experience of emotional distress (Kemp & Neimeyer, 1999). For example, Hardy and Barkham, (1994) proposed that attachment theory provides a clear model to explain both content and form of individual differences, and the

management of stress at work. Specifically, Hardy and Barkham explored the relationship between individual differences in attachment orientations and work behaviour. They found that compared to individuals with a 'Secure' attachment orientation, employees with 'Insecure' attachment patterns reported more Anxiety about work performance, greater concern about relationships at work, general job dissatisfaction, argued with work colleagues, and had concerns with hours of work. These findings suggest that individuals who are insecure (highly Anxious and/or Avoidant) are likely to suffer from more work strain than individuals who are secure (low Avoidance and Anxiety).

*Attachment Orientation, Perceptions of Social Support and Work Strain.*

As figure 1 points out, direct effects are not the only possible form of linkage between attachment orientation and work strain (i.e., the mediational possibility). Quite recently, Mikulincer, Birnbaum, Woddis and Nachmias (2000) have extended the research of previous attachment theorists. They explain that the Attachment Orientation-Strain link is influenced by perceptions of social support. Specifically, an encounter with stressful circumstances (e.g., military training) 'activates' the attachment system. This means that when people are faced with a stressful situation, they desire close proximity to significant others as a method of alleviating their distress. Mikulincer et al., (2000) found that although stressful experiences were likely to activate thoughts related to love and proximity for all attachment orientations, 'insecurely' attached individuals experienced higher strain due to worries about separation and rejection from their significant others. Mikulincer et al., (2000) concluded that people differing in attachment orientation have accessibility to different types of "attachment thoughts" (e.g., concerns over proximity of attachment figures). These differing attachment thoughts have different repercussions when managing

distress. Specifically, 'Secure' individuals are thought to view challenging situations as less distressing. This is partly because they believe others are available in times of need. In contrast, individuals with a more 'insecure' attachment orientation, either Avoidant or Anxious, will tend to view their attachment figures as non-supportive, so doubting their ability to bring relief in times of stress. Hence, insecure individuals experience a higher level of strain compared to their comparatively secure peers due the moderating effect of social support (see figure 1, f,g).

Individuals with secure attachments patterns are also thought to develop a strong sense of self-efficacy (Collins & Read, 1990). This enables them to build optimistic expectations about stress manageability. In contrast more insecure individuals tend to have relatively low self-efficacy, which leads to more pessimistic expectations about stress manageability and consequently higher strain. Bandura (1986) stated that an individual's sense of self-efficacy operates to reduce perceptions of and reactions to stress. Therefore, the level of distress experienced by those with 'secure' attachment orientation tends to be lower than those with insecure attachment orientation. Consequently, relatively secure individuals may in fact experience less work strain, independent of work place or home relationships. This potential outcome would demonstrate a direct effect between attachment orientation and work strain.

In sum, an individual's experience with their caregivers as an infant may lead to the formation of an "internal working model", which elicits their reactions to stressors as adults (Mikulincer et al., 2000). This means that, compared to insecure individuals, adults with 'secure' attachment orientations are more likely experience lower work strain. However

whether social support influences (i.e., mediates and/or moderates) this potential link between attachment orientation and work strain is unknown.

### *Hypotheses*

From figure 1, this research will explore the links between individual's attachment orientation (secure verses insecure), perceived social support (partner/workplace superiors and colleagues), and work strain (psychological pressure). To achieve this, it is hypothesised that: -

From figure 1 mediation occurs:

- Attachment orientation determines the individual's perceived social support (from significant others and at work), which in turn influences the levels of work strain experienced.
- (If social support truly mediates the overall relationship between attachment orientation and work strain, then relationship (e) (See Fig 1) should be reduced to zero when either social support from significant others or social support at work is controlled (Baron & Kenny, 1986). In a mediational relationship, the mediator is an indispensable link in a causative chain between (1) and (4). Thus, if (2) is held constant statistically, there can be no variation on (4).

Moderation occurs:

- The relationship between attachment orientation and work strain is stronger for those individuals with either high or low levels of support (See Fig 1 f,g).

Direct effects are operating:

- Attachment Orientation directly influences work strain (See Fig 1, e)
- Perceptions of social support (either work and/or significant other) directly influence work strain (See Fig 1 c,d)
- Attachment Orientation directly influences perceptions of social support from significant others (See Fig 1, a)
- Attachment Orientation directly influences perceptions of social support from work sources (See Fig 1, b)

Although a number of researchers have examined relationships between attachment patterns and social support (e.g., Florian, Mikulincer, & Bucholtz, 1995), and attachment patterns and strain, to my knowledge no study to date has directly examined the relationship between all three variables simultaneously. This study therefore breaks new ground, by testing the moderating verses mediation effect in addition to the direct effects of the three variables, in the finance sector.

## **METHOD**

### *The Participants*

A sample of 82 individuals employed in the finance sector, were recruited from both New Zealand (n=43) and the United Kingdom (n=39). The participants were obtained using a snowballing sampling method. Snowball sampling requires that the researcher contact key people regarding their potential participation. These participants serve as initial contacts and they approach others who fulfil the research criteria. This process continues until the desired number of participants is obtained. Because the researcher has previously worked in the finance sector in the UK, she was able to contact former work colleagues who then approached their colleagues to complete the questionnaire. The same method was applied in New Zealand, except the initial contacts were friends of the researchers. Originally the researcher intended to draw the sample from the New Zealand finance sector, however difficulty obtaining a sufficient number of participants meant the sample had to be expanded to include individuals employed in the finance sector in the United Kingdom.

Detailed demographic data on the sample itself was not collected. There were several reasons for this. Firstly, it was in the interests of encouraging both participation and disclosure amongst this heavily time pressured group, that the length of the questionnaire be as short as possible. Secondly the researcher has worked with many of the participants in the finance sector in London. The finance sector in New Zealand and UK is overwhelmingly male, caucasian, therefore if the participants were required to state their gender and race, the researcher may have been able to identify them due to the small number of females, and individuals who belong to ethnic minority groups. Kahn and Cooper (1993) found that recruiting participants from trading floors was very difficult, due



to the stressful working conditions, i.e., extreme time pressure. They attributed this difficulty in locating participants as being a major reason why so little research has been conducted in this sector.

Originally the researcher originally intended to draw participants from the investment banks, specifically those who work on trading floors (i.e., dealers, salespeople and marketers). Dealers are employed in buying and selling currency, bonds, trading in stocks and so on. They also provide economic analyses and research for their organisations. Salespeople are responsible for maintaining client relationships with private individuals or institutions. Marketers are primarily responsible for promoting specific corporate products or services among clients. However, difficulty in obtaining a sufficient number of these participants, meant that the sample had to be expanded to include individuals employed in other areas of the finance sector (e.g., retail banks, private finance companies, stockbrokers, accountants and insurance agents). This expanded sample meant that not all of the participants were employed on trading floors as originally planned.

### *Measures*

The data was collected by means of an anonymous questionnaire. This consisted of four instruments: The Perceived Stress Scale (PSS); The Experiences in Close Relationships Inventory (ECR); two subscales of the Work Environment Scale (WES); and two subscales of the Quality of Relationships Inventory (QRI). The materials are presented in Appendix A as they were presented to the participants.

### Perceived Stress Scale (PSS).

The PSS (Cohen, Karmarck, & Mermelstein, 1983) is a self-report measure designed to assess the degree to which individuals generally perceive situations in his/her life as stressful. The PSS is normally used to measure strain generally, which as mentioned in the introduction is the psychological component of stress. However, the PSS has been adapted in the present study to assess strain at work, i.e., the respondent's thoughts and feelings concerning their work during the past month. Thus, the adapted questionnaire commenced by stating, "Please remember to answer the scale relating to your work place," and ended with further reminder "Have you answered the scale in relation to your work place?"

The Perceived Stress Scale was selected as it measures the criterion variable of interest in the present study (i.e., perceived work strain). Additionally, the PSS has strong psychometric properties. For example, Cohen et al., (1983) report coefficient alpha reliability scores of .84, .85, and .86 in each of the three samples they tested, and they found that the PSS possesses substantial predictive validity.

The respondents were required to rate the extent of their agreement with these items across a 5-point Likert scale ranging from 1 (never) to 5 (very often). Higher scores indicate greater perceived stress in the last month. The full PSS has 14 items. For the present study, we used the shorter 10-item version (PSS-10; S. Cohen et al., 1983) to limit the length of the questionnaire.

### Experiences in Close Relationships Inventory (ECR)

The ECR is a 36-item continuously scaled self-report measure of adult attachment orientations towards interpersonal relationships (Brennan, Clark, & Shaver, 1998). The ECR was selected because it is presently the most reliable and valid measure of Attachment Orientation (Shaver & Fraley, 2001). The ECR is composed of two factor-analytically-derived subscales that respectively assess attachment-related Anxiety and Avoidance (Lopez, Mauricio, Gormley, Simko & Berger, 2001). The Anxiety subscale (18 items) assesses fear and abandonment, and strong desires for interpersonal 'merger'; and an Avoidance subscale (18 items) taps discomfort with interpersonal closeness, dependence and intimate self disclosure (Lopez et al., 2001). For both subscales, respondents indicate their level of agreement with each item using a 7-point likert type measurement scale (1=Disagree strongly; 7 = Agree Strongly).

The ECR is scored in one of two ways, either categorically (Attachment Styles) or dimensionally (Attachment Orientations). The measure is scored dimensionally in the present study. This means that participants obtain a score on two dimensions (Anxiety and Avoidance), rather than being categorised as being of a specific attachment type. Additionally, a dimensional measure was chosen because a number of problems have been connected to use of categorical measures, for example decreases in reliability, validity and statistical power (Brennan, et al., 1998; Fraley & Waller, 1998).

The ECR was developed in the USA, consequently the majority of research concerning the psychometric properties of the ECR (e.g., coefficients alpha) have been conducted in the

USA (e.g., Brennan et al., 1998). Therefore, it is important to check the instruments psychometric credentials in our sample.

#### Work Environment Scale (WES)

The WES (Moos and Insel, 1974) has been used extensively as a measure of individual's perceptions about their work environment. The inventory takes three forms: The real form (form R), the expected form (form E), and the ideal form (form I). Forms E and I are modifications of Form R, differing in verb tense, but not item content (Moos & Insel, 1981). Form R is used in the present study because the items are in the present tense, and we are interested in the employee's perceptions of their current work environment. The WES consists of ten subscales, however, most of these are not directly relevant to the present research. These are: Involvement, Supervisor Support, Autonomy, Task Orientation, Work Pressure, Clarity, Control, Innovation, Physical Comfort and Coworker Cohesion. The Work Pressure subscale may at first seem like an appropriate measure of work strain, however this subscale actually assesses the respondent's overall perception of work pressure in the work environment (for example "People cannot afford to relax"). Specifically the work pressure subscale measures the employee's general perception of strain in the work environment, rather than his or her own perceived strain level. The two most relevant subscales to the present study are co-worker cohesion and supervisor support. These subscales were used to represent perceptions of social support at work.

The co-worker cohesion and supervisor support subscales were presented in the same format as in the WES. Respondents are asked to indicate their agreement/disagreement with the 9 true/false statements on each scale. These two subscales have been found to be valid

and reliable measures of supervisor and coworker support. For example subscale internal consistencies (Cronbach's Alpha) range from 0.66 to 0.84 (Moos & Insel, 1981).

The WES has been found to possess strong psychometric properties when used in both New Zealand (for example O'Donnell & Stephens, 2001), as well in British contexts (Waryszak, 1999). The scale has not however been administered in the financial environment. Therefore we will thoroughly examine its psychometric properties in the results section.

#### Quality of Relationships Inventory (QRI)

Pierce et al., (1991) developed this self-report measure to assess relationship-specific perceptions of available support using a sample of students at an American university. Participants respond to each item using a 4-point Likert scale ranging from 1=not at all to 4 = very much.

The complete measure contains three subscales: (a) perceptions of Social Support (b) the perceived Depth of the relationship and (c) perceptions of Interpersonal conflict (i.e., is the relationship a source of conflict and ambivalence?). However, the subscale (c) conflict is not a feature of the theoretical model being investigated, and is arguably intrusive in the context of this time pressured sample, therefore it was dropped. Thirdly, Conflict is the longest subscale and the researcher was mindful of the test length as the participants work in time-pressured environment. The depth subscale (b) was included, but for descriptive purposes only. Specifically, the researcher wanted to ascertain the degree of importance attached to the significant relationship in question by the respondent. Table 1 demonstrates

the mean scores per item on subscale (b). The range is 1 (“not at all”), to 4 (“very much”). The profile in table 1, demonstrates that the participants viewed their significant others in this study, as playing a very important role in their life, since the mean scores/item range from 3.09 to 3.77. From table 1, the item value means are consistently high, therefore we know these are quality relationships.

Table 1.  
Mean score/item for the depth subscale of the QRI

DEPTH DIMENSION	Mean score/item	SD
How positive a role does this person play in your life?	3.77	.504
How significant is this relationship in your life?	3.65	.575
How close will your relationship be with this person in 10 years time?	3.73	.545
How much would you miss this person if you could not see each other for a month?	3.66	.593
How responsible do you feel for this persons well being?	3.40	.783
How much do you depend on this person?	3.09	.789

The QRI was chosen because it measures the variables of interest (i.e. perceived social support from significant others) in the present study. Furthermore the QRI has been found to possess substantial psychometric properties. For example, Pierce et al., (1991) found that the scale is internally consistent with Alpha levels ranging between .83 and .91, depending on the relationship assessed.

*Procedure*

Following the approval of the Massey University Human Ethics Committee, the researcher conducted a pilot study, whereby eight friends were sent the questionnaire via email and were asked to read the information sheet and complete the questionnaire and return the questionnaire to the freepost address provided on the information sheet. Each reviewer

completed the questionnaire, and commented on the length of time it took to complete and recorded other relevant observations (e.g., recommended formatting changes). Completion of the tests by the pilot groups only raised one small concern (a minor formatting issue).

Following, the pilot study, the researcher commenced data collection. Initially it was anticipated that the sample would be drawn solely from the finance sector in New Zealand. However, it soon became obvious that obtaining 100 participants, an acceptable quota for multivariate testing (Grimm & Yarnold, 1995), would be difficult, as the finance sector here is small. The researcher therefore decided to expand the sample to include participants from the finance sector in the United Kingdom, where she had previously worked and retained contacts. The Massey University Human Ethics Committee was consulted, and approved this change.

Friends, and past work colleagues based in the United Kingdom and New Zealand were approached via email and/or word of mouth, to request their potential participation in the study. If permission was granted, the researcher sent a copy of the information sheet (See Appendix A) and questionnaire (See Appendix A) via email (the researcher held records of their email addresses). A proportion of those individuals then distributed via email, copies of the information sheet and questionnaire to other potential participants. These potential participants included departmental managers, human resource personnel, friends in the industry, and co-workers.

Participants from New Zealand were requested (via the information sheet) to send their completed questionnaires to a freepost address provided anonymously. Participants from

the United Kingdom were required to send their completed questionnaires to a specified address in London. The address belonged to a member of the researcher's family, who then forwarded the unopened envelopes to the researchers home address. This procedure was chosen, as the researcher thought that locating a local stamp would be less of a deterrent than making a special trip to the post office to purchase a specific stamp required to send letters to New Zealand.



## RESULTS

### *Psychometric properties of the scales*

It is necessary to perform psychometric checks on the instruments within the present study, because these instruments have only really proved themselves overseas and outside of the finance sector. To do this, we used a combination of exploratory factor analysis, plus checks on internal reliability. Given the relatively small sample size ( $N=82$ ), our usage of exploratory factor analysis is tentative. Our usage of internal reliability checks entailed a combination of Coefficient Alpha and correlations between items and their corrected total scores.

Initially, the appropriateness of using factor analytic techniques was determined by calculating the Kaiser-Meyer-Olkin (KMO) statistic, and Bartlett's test of sphericity. The KMO determines the appropriateness of factor analysis by measuring the amount of common variance among variables. According to Hucheson & Sofroniou (1999), the KMO must be at least .60 to be classified as 'satisfactory'. Bartlett's Test of Sphericity involves gauging the overall significance of all the correlations in the correlation matrix. A p-value less than .05 indicates that the correlation matrix is not an identity matrix, and that it makes sense to proceed with factor analysis (Rojewski, Schell, Reybold, & Evanciew, 1997). If both the KMO statistic and Bartlett's test of sphericity were satisfactory, we conducted an exploratory factor analysis based on principal components. Principal Components Analysis (PCA) was conducted to ascertain whether the set of items load clearly onto distinct factors (Bryant & Yarnold, 2000). Factors were retained based the scree plot test (Cattell, 1966),

although Kaiser's criterion (1960), which states that eigenvalues should be greater than one, was also considered (cited in Comrey & Lee, 1992).

In addition to factor analysis based on principal components, we also checked the internal consistency of each factor using Cronbach's alpha. Alpha coefficients greater than 0.75 were viewed as acceptable. Poorly performing items were defined as those that had low corrected item-total score correlations, and/or a higher Cronbach's alpha if the item was deleted from the scale.

### **Perceived Stress Scale (PSS)**

The KMO statistic was acceptable ( $KMO = .789$ ) and did support the use of factor analysis (Hutcheson & Sofroniou, 1999). Bartlett's test of sphericity also supported the decision to use a factor analytic approach (Bartlett's statistic = 254.652,  $p = .000$ ). The PSS is usually considered to be uni-dimensional (Cole, 1988). Supporting this, our exploratory factor analysis, scree plot test clearly suggested a one-factor solution, although two factors had eigenvalues greater than one - 4.064 and 1.221. These two factors accounted for 40.637% of the variance. The internal consistency of the PSS was acceptable as indicated by Cronbach's alpha of .8346. Based on these analyses, it was decided to retain all the items in the scale (There were no items whose correlation with the corrected total score was nonsignificant or whose inclusion deflated coefficient alpha).

### **Experiences in Close Relationships Inventory (ECR).**

The use of factor analysis (N=82, 36 items) was found to be appropriate, as indicated by an acceptable KMO statistic (KMO=.72) and Bartlett's test of sphericity (Bartlett's statistic = 1884.903,  $p < .001$ ).

The ECR is normally considered to possess two factors (Anxiety and Avoidance) (Brennan et al., 1998). We tested this empirically using Principal Components Analysis. Two factors were retained based on the results of the scree test (eigenvalues 9.969, 4.911, 2.405, 2.061, 1.755, 1.605, 1.479, 1.079, 1.059). These two factors together accounted for a total variance of 41.33%.

Based the research of Brennan et al., (1998), it was decided that the Experiences in Close Relationships Inventory items should be forced to load onto two factors using a Procrustes procedure. The ECR items were subjected to a Varimax rotation, because the dimensions are theoretically orthogonal (uncorrelated). According to Brennan et al., (1998) odd numbered items should relate to the Avoidance dimension and the even numbered items should load onto an Anxiety dimension. In our data set this is exactly what happened. From Table 2, each item subsequently loaded clearly onto one of two factors and not the other.

Table 2.

Factor Matrix for the Experiences in Close Relationship Inventory after a Varimax Rotation

Item	Factor 1 (Avoidance)	Factor 2 (Anxiety)
ECR27	.814	
ECR33	.715	
ECR23	.713	
ECR9	.699	
ECR17	.695	
ECR31	.683	
ECR13	.676	
ECR11	.658	
ECR35	.640	
ECR3	.636	
ECR25	.581	
ECR19	.575	
ECR1	.572	
ECR5	.550	.309
ECR15	.546	
ECR21	.545	
ECR7	.424	
ECR29	.361	
ECR8		.768
ECR2		.747
ECR18		.702
ECR4		.681
ECR14		.644
ECR6		.641
ECR36		.587
ECR20		.572
ECR10		.568
ECR26	.323	.565
ECR32		.554
ECR22		.553
ECR28		.544
ECR30		.534
ECR16		.518
ECR12		.418
ECR34		.392
ECR24		.340

Note loadings less than .3 have been suppressed

Brennan et al., (1998) reported Cronbach's alpha coefficients of .91 and .94 for the Anxiety and Avoidance dimensions. Reliability analysis of our own 36-item ECR revealed a Cronbach's alpha of .9000 and .8906 for Avoidance and Anxiety, respectively.

Based on these analyses, all of the original items were retained in the measure used in the present study.

### **Work Environment Scale (WES)**

Initially, the measure of sampling adequacy ( $N=82$ ) was calculated using the KMO statistic and Bartlett's test of sphericity. The use of factor analysis was found to be borderline as indicated by the KMO statistic ( $KMO=.64$ ) (Hutcheson & Sofroniou, 1999). However, Bartlett's test of sphericity supported the decision to use a factor analytic approach (Bartlett's statistic = 354.096,  $p = .0000$ ).

Based on the borderline KMO statistic, reliability analysis was conducted to check for poorly performing items. The initial analysis revealed Cronbach's Alpha's of .6669 and .5924 for 9-item co-worker cohesion subscale and the 9-item supervisor support subscale, respectively. These alpha levels were unacceptably low. In an attempt to improve both the internal consistency of the data and the factor solution, items 6, 8, 12, 14, 16 and 17 were removed based on their low corrected item-total score correlations. Consequently, the Cronbach's Alpha levels increased to more acceptable levels. These were .6864 for the 8-item co-worker support subscale, and .6843 for the 4-item supervisor support subscale. The KMO statistic was then recalculated and increased to a more acceptable level of .679.

Factor analysis based on principal components was then performed. The scree test indicated two factors (eigenvalues = 3.091, 2.123, 1.197, 1.044). The first factor accounted for 25.761 % of the total variance and the second factor explained another 17.688% of the total variance.

Due to the fact that the two subscales measure one underlying dimension - the Relationship domain (Moos & Insel, 1981), an oblique rotation was performed forcing two factors. Based on the results of Moos and Insel (1981), it was anticipated that the odd numbered items would load onto factor 1 and the even numbered items would load onto factor 2. Instead however, we obtained the outcome presented in Table 3. These items then constituted our factors.

Table 3.  
Factor Matrix for the Work Environment Scale after an Oblique Rotation

Item	Component 1 (Coworker Support)	Component 2 (Supervisor Support)
WE1	<b>.549</b>	
WE2	<b>.458</b>	
WE3	<b>.671</b>	
WE4	<b>.563</b>	
WE5	<b>.694</b>	
WE7		<b>.777</b>
WE9	<b>.344</b>	
WE10	<b>.508</b>	-.495
WE11	.430	<b>.505</b>
WE13	<b>.364</b>	
WE15	.518	<b>.592</b>
WE18	<b>.579</b>	-.503

**Quality of Relationships Inventory (QRI)**

The Kaiser-Meyer-Oklín (KMO) statistic was found to be within acceptable limits (KMO = .82). Bartlett’s test of sphericity suggested that we could use a factor analytic approach (Bartlett’s statistic = 184.541, p = .000).

Factor analysis based on principal components was performed on the 7-item QRI subscale used in the present study. The scree test clearly suggested the presence of just this one factor (eigenvalue = 3.435). This factor accounted for 49.07% of the total variance.

In the present study, Cronbach’s Alpha was .8245.

*Descriptive Statistics for the main subscales*

The mean scores per item, standard deviations, and midpoints for scores on each item are presented in Table 4. Table 4 indicates whether the mean scores/item are above or below the mid point for each subscale. From Table 4, the mean score /item on the Avoidance (2.85) and Anxiety (3.23) subscales are low, given a midpoint of 4 (possible range of 1 to 7). This outcome suggests a tendency towards a secure attachment orientation, since lower Avoidance and Anxiety scores point to a more secure attachment orientation.

Table 4.  
Descriptive statistics for the subscales

Subscales	Mean score/item	Midpoint	Range
<b>Instrument- Experiences in Close Relationships Inventory</b>			
Avoidance	2.85	4.0	6
Anxiety	3.24	4.0	6
<b>Instrument- Quality of Relationships Inventory</b>			
Social Support from Significant others	3.49	2.5	3
<b>Instrument- Perceived Stress Scale</b>			
Work Strain	2.36	3.0	4
N= 82			

The mean score per item on social support from significant others measure (3.49) was high, given a midpoint of 2.5, and the range of 1 (lowest score) to 4 (highest score). This indicates that, on average, the sample perceived a high level of social support from significant others.

From Table 4, the mean score per item (2.36) on the work strain subscale is reasonably low when compared to a midpoint of 3, given that 1 is the lowest possible work strain score and 5 is the highest., thus the sample indicated reasonably low work strain levels.

Because the supervisor support and coworker support subscales used a true/false response format, the mean score/item was not an appropriate indicator, therefore mean scores/subscale were calculated. The mean score on the supervisor support subscale (5.34) was just slightly higher than the score obtained by the normative sample (5.18) (Moos & Insel, 1981). The mean score on the coworker support scale (5.77) was also higher than the score obtained in the normative sample (5.52). This indicates relatively high reported social support from supervisors and coworkers amongst our sample, given a midpoint of 5 and the possible range of 0 to 9 on each scale.

Table 5  
Descriptive statistics for the Work Environment Scale

Subscales	Mean score/scale	Midpoint	Range
<b>Instrument- Work Environment Scale</b>			
Supervisor support	5.34	5.0	8
Coworker support	5.77	5.0	8
N= 82			



### *Is Social Support a Mediator between Attachment Orientation and Work Strain?*

Following the suggestion by Baron and Kenny (1986), testing for mediation requires that three regression equations are estimated: (i) the mediator (perception of social support) is regressed on the independent variable (attachment orientation); (ii) the dependent variable (work strain) is regressed on the independent variable; and (iii) the dependent variable (work strain) is regressed on the both the independent variable (attachment orientation) and the mediator (social support).

Statistically, a variable serves as a mediator when it meets the following conditions: (1) variations in the levels of the independent variable (attachment orientation) significantly account for variations in the presumed mediator (social support) (See Fig1- path a & b), (2) variations in the mediator, significantly account for variations in the dependent variable (work strain) (See Fig1-Path c & d), and (3), when Paths a and b are controlled, a previously significant relation between the independent and dependent variable (See Fig 1- path e) is no longer significant, with the strongest display of mediation happening when the path is zero. When the residual path is reduced but not zero, this points to the operation of multiple mediating factors (Partial mediation) (Baron & Kenny, 1986).

A composite measure of attachment orientation was not appropriate as attachment orientation is comprised of two dimensions (Anxiety and Avoidance), therefore the mediating potential of each dimension of attachment orientation was addressed separately.

The results of the regression analyses, that assess whether perceptions of social support from significant others mediate the relationship between Anxiety and work strain, are presented in Table 6.

Table 6.  
Hierarchical multiple regression analyses of Anxiety, Perceptions of Social Support from Significant Others and Work Strain

	B	SEB	Beta	t	Adjusted $r^2$ (%)
<b>Dependent variable: Perceptions of Social Support from Significant others</b>					
<u>Equation 1 (<math>R^2 = .102</math>)</u>					
Anxiety	-.069	.023	-.319	-.319**	9.1
<b>Dependent variable: Work Strain</b>					
<u>Equation 2 (<math>R^2 = .206</math>)</u>					
Anxiety	.168	.037	.454	4.560***	19.6
<u>Equation 3 (<math>R^2 = .225</math>)</u>					
Anxiety	.151	.039	.408	3.902***	19.6
Social support (significant other)	-.251	.180	-.146	-1.393	20.6

**Notes**

\* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

B= Unstandardised Beta, SEB = Unstandardised Standard Error,

Beta = Standardised Beta

From Table 6, equation 1, Anxiety is both significantly and negatively predictive of perceptions of social support from significant others, ( $F(1,80) = 9.074$ ,  $p < 0.01$ ). Anxiety explains 9.1% of the variance in perceived levels of social support. In the second regression equation, Anxiety is significantly and positively predictive of work strain scores, ( $F(1,80) = 20.791$ ,  $p < .001$ ). Anxiety explains 19.6% of the variance in work strain. In the third equation in Table 6, both Anxiety and perceived social support (from significant others) are included. From Table 6, social support added just 1% to the explained variance in work strain, beyond the 19.6% contributed by Anxiety. These results suggest that perceptions of social support from significant others are not mediating the relationship between Anxiety

and work strain, since Anxiety remain a statistically significant predictor of work strain, even when perceptions of social support are controlled.

The results of the regression analyses, that assess whether perceptions of social support from significant others mediate the relationship between Avoidance and work strain, are presented in Table 7.

Table 7.  
Hierarchical multiple regression analyses of Avoidance, Perceptions of Social Support from Significant Others and Work Strain

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Perceptions of Social Support from Significant others</b>					
<u>Equation 1 (R<sup>2</sup>= .159)</u>					
Avoidance	-.087	.022	-.399	-3.894***	14.9
<b>Dependent variable: Work Strain</b>					
<u>Equation 2 (R<sup>2</sup>= .028)</u>					
Avoidance	.062	.041	.166	1.510	1.6
<u>Equation 3 (R<sup>2</sup>= .080)</u>					
Avoidance	.025	.044	.067	.570	1.6
Social Support	-.429	.203	-.249	-2.114*	5.6

\*p<.05, \*\*p<.01,\*\*\* p<.001  
 B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
 Beta = Standardised Beta

From Table 7, Equation 1 shows that Avoidance is negatively and significantly predictive of perceptions of social support from significant others (F(1,80) =15.167, p<.001). Avoidance accounts for 14.9% of the variance in perceived levels of social support. In the second regression equation, Avoidance is positively, but not significantly predictive of work strain scores (F(1,80)= 2.279, N.S.). Avoidance explains just 1.6% of the variance in work strain. Since the second equation was non-significant, perceptions of social support

from significant others, do not mediate the relationship between Avoidance and work strain.

From Figure 1, we turn now to perceptions of social support in the workplace: Social support at work is broken down into co-worker support, and supervisor support. Thus, the mediating role of these two sources of support are addressed separately.

The results of the regression analyses that assess whether perceptions of coworker support mediate the relationship between Anxiety and work strain are presented in Table 8.

Table 8

Hierarchical multiple regression analyses of Anxiety, Coworker Support and Work Strain.

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable: Perceptions of Coworker Support</b>					
Equation 1 (R <sup>2</sup> = .001)					
Anxiety	-.004	.016	-.029	- .262	1.2
<b>Dependent variable: Work Strain</b>					
Equation 2 (R <sup>2</sup> = .206)					
Anxiety	.168	.037	.454	4.560***	19.6
Equation 3 (R <sup>2</sup> = .21)					
Anxiety	.169	.037	.456	4.558***	19.6
Coworker support	.163	.263	.062	.619	19.0

\*p<.05, \*\*p<.01,\*\*\* p<.001

B= Unstandardised Beta, SEB = Unstandardised Standard Error, Beta = Standardised Beta

From Table 8, Equation 1 indicates that Anxiety negatively, but non-significantly influences perceptions of co-worker support ( $F(1,80) = .069$ , N.S.). Anxiety explains just 1.2% of the variance in perceived levels of co-worker support. The second regression equation demonstrates the relationship between Anxiety and work strain as seen earlier in Table 6 (Anxiety significantly and positively predicts work strain scores  $F(1,80) = 20.791$ ,  $p<.001$ . Anxiety explains 19.6% of the variance in Work strain scores). Since the first

equation in Table 8 is non-significant (i.e., Anxiety does not significantly predict perceived levels of coworker support), then perceived levels of coworker support do not mediate the relationship between Anxiety and work strain

Turning now from coworker support to support from Supervisors, the results of the regression analyses, that assess whether perceived levels of coworker support mediate the relationship between Avoidance and work strain are presented in Table 9.

Table 9  
Hierarchical multiple regression analyses of Avoidance, Coworker Support and Work Strain.

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable: Perceptions of Coworker Support</b>					
<u>Equation 1 (R<sup>2</sup>= .000)</u>					
Avoidance	-.002	.016	-.011	- .095	1.2
<b>Dependent variable: Work Strain</b>					
<u>Equation 2 (R<sup>2</sup>= .028)</u>					
Avoidance	.0625	.041	.166	1.510	1.6
<u>Equation 3 (R<sup>2</sup>= .030)</u>					
Avoidance	.0627	.042	.167	1.570	1.6
Coworker Support	.132	.291	.050	.454	0.6

\*p<.05, \*\*p<.01,\*\*\* p<.001  
 B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
 Beta = Standardised Beta

From Table 9, Equation 1 demonstrates that Avoidance does not significantly predict perceptions of coworker support (F(1,80) =.009, N.S.). Avoidance explains just 1.2% of the variance in perceived levels of coworker support. The second regression equation is demonstrated in Table 7 (Avoidance does not significantly predict work strain scores, F(1,80) = 2.279, N.S.). Since both the first and second equation are nonsignificant perceived levels of social support from coworkers do not mediate the relationship between Avoidance and work strain.

The results of the regression analyses, that assess whether perceptions of social support from supervisors mediate the relationship between Anxiety and work strain, are presented in Table 10.

Table 10  
Hierarchical multiple regression analyses of Anxiety, Supervisor Support and Work Strain.

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable: Perceptions of Supervisor Support</b>					
<u>Equation 1 (R<sup>2</sup> = .013)</u>					
Anxiety	-.010	.010	-.114	-1.025	.1
<b>Dependent variable: Work Strain</b>					
<u>Equation 2 (R<sup>2</sup> = .206)</u>					
Anxiety	.168	.037	.454	4.560**	19.6
<u>Equation 3 (R<sup>2</sup> = .210)</u>					
Anxiety	.171	.037	.462	4.587**	19.6
Supervisor Support	.272	.423	.065	.642	19.0

\*p<.05, \*\*p<.01,\*\*\* p<.001  
B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
Beta = Standardised Beta

From Table 10, equation 1 shows that Anxiety does not significantly predict perceptions of supervisor support ( $F(1,80) = 1.051$ , N.S.). Anxiety predicts just 1% of the variance in perceived levels of supervisor support. The second regression equation is demonstrated in Tables 6 and 8 (Anxiety significantly and positively predicts work strain scores,  $F(1,80) = 20.791$ ,  $p < .001$ . Anxiety explains 19.6% of the variance in work strain). In the third equation in Table 10, both Anxiety and perceived social support (from supervisors) are included. However, Anxiety remains a statistically significant predictor of work strain even when supervisor support is controlled. Therefore, perceptions of social support from supervisors do not mediate the relationship between Anxiety and work strain.

The results of the regression analyses that assess whether perceptions of social support from supervisors mediate the relationship between Avoidance and work strain, are presented in Table 11.

Table 11  
Hierarchical multiple regression analyses of Avoidance, Supervisor Support and Work Strain.

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
Dependent variable: Perceptions of Supervisor Support					
<u>Equation 1 (R<sup>2</sup> = .003)</u>					
Avoidance	-.005	.010	-.053	-.475	1.0
Dependent variable: Work Strain					
<u>Equation 2 (R<sup>2</sup> = .028)</u>					
Avoidance	.063	.041	.166	1.510	1.6
<u>Equation 3 (R<sup>2</sup> = .028)</u>					
Avoidance	.0629	.042	.168	1.509	1.6
Supervisor Support	.088	.467	.021	.189	0.4

\*p<.05, \*\*p<.01,\*\*\* p<.001  
 B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
 Beta = Standardised Beta

From Table 11, Equation 1 indicates that Avoidance does not significantly predict perceptions of supervisor support (F(1,80)=.226, N.S). Avoidance explains just 1% of the variance in perceived levels of supervisor support. The second equation is demonstrated in Tables 7 and 9 (Avoidance is not a significant predictor of work strain). Since both the first and second equations are not significant, perceived levels of social support from supervisors do not mediate the relationship between Avoidance and work strain,

*Moderation*

In the next set of analyses, we examine whether the relations between attachment orientation and work strain change as a function of the perceptions of social support, either from significant others, or from work sources namely supervisors and/or coworkers (the

moderator variable). To address moderation, a series of regression analyses, as specified by Baron and Kenny (1986), were conducted. First, work strain (dependent variable) is regressed, separately on each of the two attachment orientation dimensions of Anxiety and Avoidance (independent variables) (See equation 1, Table 12). This determines the effect of the independent variable (Anxiety and Avoidance) on the dependent variable (work strain). Next, work strain is regressed on perceived social support (moderator variable), which determines the effect of the moderator on the dependent variable (See equation 2, Table 12). Finally, work strain is regressed on the product of attachment orientation and perceived social support (either from significant others or from work sources). Moderator effects are demonstrated by a statistically significant interaction effect of the independent and moderator variables on the dependent variable, when the separate effects of the independent and moderator variable on the dependent variable are controlled statistically (Yarcheski & Mahon, 1999).

To avoid the problem of multicollinearity between the predictors (Anxiety, Avoidance and levels of perceived social support), the predictor variables are normally “centered”. This involves subtracting each variable’s mean from the individual scores (Howell, 2002). This is done because, if we multiply predictor scores together, multicollinearity is likely to result, since either Anxiety and Avoidance, or perceptions of social support, will be highly correlated with their own product.

The results of the regression analyses, that assess whether perceptions of social support from significant others moderate the relationship between Anxiety and work strain, are presented in Table 12.



Table 12  
Hierarchical multiple regression analyses of Anxiety, Perceptions of Social Support from Significant Others and Work Strain

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
<u>Equation 1</u>					
Anxiety	.168	.037	.454	4.560***	19.6
<u>Equation 2</u>					
Social Support (significant other)	-.251	.180	-.146	-1.393	20.6
<u>Equation 3</u>					
Anxiety * Social Support (significant other)	-.006	.013	-.055	-.490	19.8

\*p<.05, \*\*p<.01, \*\*\* p<.001  
 B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
 Beta = Standardised Beta

From Table 12, one statistically significant outcome results when testing whether (i) levels of perceived social support from significant others, (ii) moderate the relationship between Anxiety and work strain. This significant outcome occurs when work strain is regressed on Anxiety (beta = .408, t= 3.902, p<.001). However, as demonstrated by the non-significant interaction effects shown in Equation 3, perceptions of social support from significant others do not moderate the relationship between Anxiety and work strain.

The results of the regression analyses that, assess whether perceptions of social support from significant others moderate the relationship between Avoidance and work strain, are presented in Table 13.

Table 13

Hierarchical multiple regression analyses of Avoidance, Perceptions of Social Support from Significant Others and Work Strain

	B	SEB	Beta	t	Adjusted $r^2$ (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
<u>Equation 1</u>					
Avoidance	.0252	.044	.067	.570	1.6
<u>Equation 2</u>					
Social Support (significant other)	-.429	.203	.249	-2.114*	5.6
<u>Equation 3</u>					
Avoidance*Social Support (significant other)	-.0565	.015	.044	.368	4.6

\* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
Beta = Standardised Beta

From Table 13, equation 1 indicates that Avoidance is not a significant predictor of work strain ( $\beta = .067$ ,  $t = .570$ , N.S.). In the second regression equation, perceptions of social support from significant others is a significant predictor of work strain ( $\beta = -.479$ ,  $t = -2.114$ ,  $p < .05$ ). The third regression equation in Table 13, reveals that perceptions of social support from significant others do not moderate the relationship between Avoidance and work strain, as indicated by the fact that the relationship between the interaction term and work strain is not significant.

The results of the regression analyses, that assess whether perceptions of social support from coworkers moderate the relationship between Anxiety and work strain, are presented in Table 14.

Table 14  
 Hierarchical multiple regression analyses of Anxiety, Coworker Support and Work Strain

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
<u>Equation 1</u>					
Anxiety	.168	.037	.454	4.560***	19.6
<u>Equation 2</u>					
Social Support (Coworker)	.190	.249	.076	.762	19.2
<u>Equation 3</u>					
Anxiety*Social Support (Coworker)	-.00141	.018	-.008	-.076	18.2

\*p<.05, \*\*p<.01,\*\*\* p<.001  
 B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
 Beta = Standardised Beta

From Table 14, results of testing whether perceptions of social support from coworkers moderate the relationship between Anxiety and work strain do not reveal any additional significant effects to those shown in Table 12 (i.e., Anxiety is a significant predictor of work strain). In the second equation, coworker support is not a significant predictor of work strain. As demonstrated by the non-significant interaction effect shown in Equation 3, perceptions of social support from coworkers do not moderate the relationship between Anxiety and work strain.

The results of the regression analyses, that assess whether perceptions of coworker support moderate the relationship between Avoidance and work strain are presented in Table 15.

Table 15  
Hierarchical multiple regression analyses of Avoidance, Coworker Support and Work Strain

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
<u>Equation 1</u>					
Avoidance	.063	.041	.166	1.510	1.6
<u>Equation 2</u>					
Social Support	.135	.276	.054	.489	6.0
(Coworker)					
<u>Equation 3</u>					
Avoid*Social Support	.0092	.021	.051	.432	4.0
(Coworker)					

\*p<.05, \*\*p<.01,\*\*\* p<.001  
 B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
 Beta = Standardised Beta

From Table 15, testing whether perceptions of social support from coworkers moderates the relationship between Avoidance and work strain does not reveal any significant effects. As demonstrated by the non-significant interaction effect shown in Equation 3, perceptions of social support from coworkers do not moderate the relationship between Avoidance and work strain.

The results of the regression analyses, that assess whether perceptions of social support from supervisors moderate the relationship between Anxiety and work strain, are presented in Table 16.

Table 16  
Hierarchical multiple regression analyses of Anxiety, supervisor support and work strain

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
<u>Equation 1</u>					
Anxiety	.168	.037	.454	4.560***	19.6
<u>Equation 2</u>					
Social Support (Supervisor Support)	.032	.294	-.012	-1.09	18.6
<u>Equation 3</u>					
Anxiety*Social Support (Supervisor)	.0072	.020	-.038	-.365	17.7

\*p<.05, \*\*p<.01, \*\*\* p<.001

B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
Beta = Standardised Beta

From Table 16, testing whether perceptions of social support from supervisor moderate the relationship between Anxiety and work strain do not reveal any additional significant effects from those already established in Tables 12 and 14 (i.e., Anxiety is a significant predictor of work strain). As demonstrated by the non-significant interaction effects shown in Equation 3, perceptions of social support from supervisors do not moderate the relationship between Anxiety and work strain.

The results of the regression analyses, that assess whether perceptions of social support from supervisors moderate the relationship between Avoidance and work strain, are presented in Table 17.

Table 17

Hierarchical multiple regression analyses of Avoidance, Supervisor Support and Work Strain

	B	SEB	Beta	t	Adjusted $r^2$ (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
<u>Equation 1</u>					
Avoidance	.063	.041	.166	1.510	1.6
<u>Equation 2</u>					
Social support (Supervisor)	-.435	.302	-.161	-1.444	2.9
<u>Equation 3</u>					
Avoid*Social Support (Supervisor)	.0136	-.022	.072	.630	2.1

\* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
Beta = Standardised Beta

From Table 17, a test of whether perceptions of social support from supervisors moderate the relationship between Avoidance and work strain does not result in any statistically significant results. As demonstrated by the non-significant interaction effect shown in Equation 3, perceptions of social support from supervisors do not moderate the relationship between Avoidance and work strain.

### Direct effects

At the end of the day therefore, we are left with one potentially significant form of linkage. This linkage- the direct effect is the simplest. The results of direct effects between attachment orientations, perceptions of social support from work sources (supervisors and coworkers) and significant others, and work strain are presented in Table 18.

Table 18  
Hierarchical multiple regression analyses of direct effects.

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
Anxiety	.168	.037	.454	4.560***	19.6
Avoidance	.063	.041	.166	1.510	1.6
Social support (Significant other)	-.475	.185	-2.76	-2.565*	6.4
Social support (Coworker)	.127	.293	.049	.435	.2
Social support (Supervisor)	.051	.470	.012	.108	0
<b>Dependent variable:</b>					
<b>Social support (Significant other)</b>					
Anxiety	-.069	.023	-.319	-.319**	9.1
Avoidance	-.087	.022	-.399	-3.894***	14.9
<b>Dependent variable:</b>					
<b>Social support (Coworker support)</b>					
Anxiety	-.004	.016	-.029	-.262	1.2
Avoidance	-.002	.016	-.011	-.095	1.2
<b>Dependent variable:</b>					
<b>Social support (Supervisor Support)</b>					
Anxiety	-.010	.010	-.114	-1.025	.1
Avoidance	-.005	.010	-.053	-.475	1.0

\*p<.05, \*\*p<.01, \*\*\* p<.001

B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
 Beta = Standardised Beta

From Table 18, significant direct effects exist between anxiety and work strain (beta =.454, t=4.560, p<.001), perceptions of social support from significant others and work strain (beta= -.276, t=-2.565, p<.05), Anxiety and perceptions of social support from significant others (Beta =-.319, t= -.319, p<.01), and between Avoidance and social support from significant others (Beta = -.399, t= -3.894, p<.001).

### *Post hoc analyses*

Due to unforeseen circumstances, our sample was drawn from two locations (New Zealand and the United Kingdom), rather than just New Zealand as originally intended. Therefore we conducted posthoc analyses to investigate whether our results hold across the two settings. The most obvious variable was work strain. Our results indicated that strain levels were not significantly different across the two locations ( $F(1,80) = .125$ , N.S.)).

It didn't seem appropriate, given the nonsignificant difference in the levels of work strain, and the non-presence of mediation or moderation in the overall sample to retest for mediation or moderation. This is especially so given the small sample size. However, we did obtain a wide range of direct effects in the overall sample. With that posthoc question, separate tests of direct effects in both locations were conducted. These results are provided in Appendix C. To summarise their content however, there was a complete replication in the UK sample. Specifically, significant direct effects exist between Anxiety and work strain ( $\beta = .596$ ,  $t = 4.515$ ,  $p < .001$ ), between perceptions of social support from significant others and work strain ( $\beta = -.479$ ,  $t = -3.316$ ,  $p < .01$ ), between Anxiety and perceptions of social support from significant others ( $\beta = -.315$ ,  $t = -2.017$ ,  $p < .05$ ), and between Avoidance and social support from significant others ( $\beta = -.347$ ,  $t = -2.250$ ,  $p < .05$ ).

The New Zealand sample resulted in a partial replication. Significant direct effects exist between Anxiety and perceptions of social support from significant others ( $\beta = -.329$ ,  $t = -2.234$ ,  $p < .05$ ), and between Avoidance and social support from significant others ( $\beta = -.452$ ,  $t = -3.247$ ,  $p < .01$ ).



## DISCUSSION

### *Resume of findings*

The principal goal of this study was to explore the links between an individual's attachment orientation (secure versus insecure), perceived social support (significant other/workplace superiors and colleagues), and work strain (psychological pressure). More specifically, we were interested in whether perceptions of social support mediate, moderate or have a direct effect on work strain in the finance sector. Firstly, in none of the potential forms of social support (significant others/workplace superiors and colleagues) did mediation hold. Secondly, there were no moderation effects. Neither social support from significant others, nor from work sources interacted with the adult attachment orientations (Anxiety and Avoidance) to predict work strain scores. However, thirdly, direct effects were found. Social support from significant others was a significant direct predictor of work strain. Anxiety and Avoidance were significant direct predictors of social support perceived to come from significant others. And most importantly of all, Anxiety was a significant direct predictor of work strain.

### *Links to Theory.*

#### Mediation

In retrospect, perhaps it was unreasonable to expect perceived levels of social support (from significant others and work sources) to mediate the relationship between attachment orientation and work strain. Specifically, requiring that attachment orientation would cause perceptions of social support, and that these perceptions of social support would then cause work strain was an extreme demand given that variables, other than attachment orientation are likely to influence both perceptions of social support, and work strain.

### Moderation

What remains surprising however, is our finding that social support did not moderate the link between attachment orientation and work strain (See Fig 1, f,g). This link has received a great deal of support in previous research (e.g., Cohen & Wills, 1985). A potential explanation of our non-significant results is that the culture of the finance industry does not encourage social support as a means of coping. French (1979) argues that buffering depends upon the individual's *mobilisation* of social support. Although support may exist in the work and home environment, individuals will not utilise this support, unless they perceive that it is likely to alleviate their work strain. Furthermore, employees in the finance sector perform relatively autonomous, independent roles. Therefore these individuals rely less on the support of coworkers and supervisors. Hence, employees do not habitually 'mobilise' social support under conditions of work related strain, because the process of social support is not engaged in the first place.

An additional, and perhaps complimentary reason (to the cultural influence mentioned above) why perceived levels of social support do not moderate the link between attachment orientation and work strain, is that the finance industry may attract a specific personality type. This personality type might not utilise social support even under conditions of strain. For example Kahn and Cooper (1993) found that those with a "Type A" personality tend to be attracted to the finance sector. These "Type A" individuals are defined by an exaggerated sense of time urgency, competitiveness, ambition, aggressiveness and hostility (Rosenhan & Seligman, 1995). Type A's tend to *deny* that they are upset by stress. As a result, they may not perceive or register social support even when it is offered from their home or work environment (Kahn & Cooper, 1993). Thus, it is possible that some

participants in our study, as well as responding to industry norms, also tended to deny their feelings of strain. In this way, they would not utilise social support even when faced with work strain.

Turning again to our lack of moderation. On average, the present sample reported moderately low strain levels. French (1979) claims that moderating effects require individuals to utilise social support, and support is only employed in response to high strain. Therefore, it is conceivable that social support does operate as a moderator, but only under conditions of reasonably high strain in the finance sector. Hence the importance of social support as a moderator of the relationship between attachment orientation and work strain should not be discounted.

#### Direct effects

Turning now to direct effects, the finding that Anxiety was a significant direct predictor of work strain (See Fig 1, e) has been supported by previous research. For example Hazan and Shaver (1990) found that Anxious individuals are likely to: Use work as a method of gaining approval; have a tendency to become over obligated; feel under-appreciated; have low of self esteem; fear rejection, and use work to satisfy attachment needs. As a result, Anxious individuals tend to higher work strain than their less anxious colleagues (Hardy & Barkham, 1994). Moreover, Hazan and Shaver (1990) found that “Secure” individuals who score low on the Anxiety dimension had a relatively positive approach to work. Additionally they were least likely to: put work off; have difficulty completing tasks; fear failure; and feel rejected by their co-workers. “Secure” individuals enjoyed their vacations and did not allow work to jeopardise their relationships or health. These findings are

consistent with our results that secure individuals experience lower work strain than their more Anxious peers.

The finding that Anxiety was a significant direct predictor of work strain is particularly important for both individuals and organisations to note. Through understanding that there is a link between an individual's inbuilt Anxiety level and work strain, strain management programmes might include a cognitive behavioural component. This cognitive behavioural component could teach individuals (a) how to recognise, and (b) how to cope with these Anxiety provoking situations.

As expected, perceptions of social support from significant others was a significant direct predictor of work strain (See Fig 1, c). Researchers (e.g., Beehr, 1985; Cohen & Wills, 1985; Eisenberger, Huntington, Hutchinson, & Sowa, 1986; Cobb, 1976; Dolan, Van Ameringen and Arsenault, 1992; Beehr, Jex, Stacy, & Murray, 2000) have attributed this direct effect to the idea that social support from significant others enhances the individual's sense of overall well-being. This enhanced sense of overall well-being is thought to occur through the provision of positive affect and a recognition of self worth, which in turn increase the individual's resilience to work strain. The effect of perceptions of social support from significant others on work strain has important implications for reducing work strain in the finance sector. Specifically, highlighting the importance of promoting meaningful relationships with significant others can reduce work strain.

Another potential explanation for the outcome that perceptions of social support from significant others directly predict work strain, is that individuals are boosted by the pleasure

derived from their home environment, and as a result they are motivated to tackle challenges in the work domain, thus, they experience lower levels of work strain. This explanation supports work-family linkage research, specifically the spillover model. The spillover model asserts that positive/negative effects from one life domain are carried over into another life domain (Kirchmeyer, 1992). For example, a sense of contentment and happiness within the individual's home life translates into positive benefits in their work life. However, to draw sound conclusions regarding this particular spillover model, precise levels of satisfaction derived from both work and non-work domains must be measured.

The finding that Anxiety was a significant predictor of social support from significant others (See Fig 1,a) is supported by previous research. For example Simpson, Rholes & Nelligan, (1992) found that Anxious individuals believe that significant others are undependable, and unpredictable in terms of their emotional availability. Therefore these Anxious individuals do not perceive their significant others as being supportive. This fits with our finding that the higher the individual's level of Anxiety, the lower was their perceived level of social support from significant others.

The finding that Avoidance was also a significant predictor of perceptions of social support from significant others (See Fig 1,a) is not surprising. Past research has established that Avoidant individuals have a strong need for autonomy, and control, therefore they are reluctant to seek support (Bowlby, 1973, 1982). Furthermore, these individuals believe significant others are unreliable and unresponsive, and so perceive significant others as being less supportive than their more secure peers. This is because people who anticipate

that others are unreliable are relatively unlikely to develop supportive relationships due to their negative expectations (Pierce et al., 1991).

Although attachment orientation did predict perceived levels of social support from significant others, it did not predict social support from supervisors and peers in the work place (See Fig 1, b). This finding is contrary to our expectations. Specifically, the individual's 'internal working model' did not generalise across the two sources of support. Past research has found that "Anxious" individuals tend to view others as "undependable", therefore they tend to perceive lower levels of social support. Whereas more secure individuals view others as "dependable" and "trustworthy", and so tend to perceive high levels of social support (Hazan & Shaver, 1987). Therefore, it was predicted that the Anxiety and Avoidance would predict perceptions of social support at work in the same way as they predict perceptions of social support from significant others. A possible explanation for this finding is that individuals do not view their work colleagues as being as important as their significant others, therefore the influence of their attachment orientations on these perceptions of supportiveness are not as pronounced.

Furthermore, the outcome that work based social support does not have a direct effect on work strain, does not support the matching hypothesis. This hypothesis proposes that social support is most effective in reducing strain when both the support and strain stem from the same domain (i.e., work strain is best alleviated via work support). Our results suggest the opposite however. Social support that originated from a non-work source (e.g., significant others) significantly reduced work strain, whereas work related social support did not.

Therefore, the importance of sources of social support independent of the source of strain should be emphasised.

### *Limitations*

The current study has a number of limitations, which should be considered when interpreting the findings. The cross sectional nature of the study prohibits any definitive inferences about cause and effect. Additionally, cross sectional research may be confounded by lag effects. A way of dealing with these issues would be to use a longitudinal design. However longitudinal studies are extremely time consuming for the participants, and have drawbacks such as difficulty in retaining participants and researchers.

Another limitation in the current study is that all of the data was obtained via self-report measures. Therefore the results were subject to forms of distortion such as common method variance, and consistency bias.

A further limitation of our study is that the Cronbach's alpha coefficient of the measure used to assess perceived levels of social support from work sources (Work Environment Scale) is negligible. This combined with our small sample means that the power of this statistical test is quite low.

### *Future research*

While these results do not constitute conclusive evidence that social support moderates the relationship between attachment orientation and work strain. This relationship should not be discounted, but rather investigated in future research under conditions of high strain. In order to locate a high strain sample, participants might be drawn from Investment banks front office division (e.g., traders, marketers and salespeople). Those who are employed in less demanding areas of the finance sector (e.g., retail banks, private finance companies, stockbrokers, accountants and insurance agents) should be excluded.

As noted earlier, direct effects were found between perceptions of social support from significant others and work strain. This link implied the presence of positive spillover from the non-work to the work domain. Therefore, it is important that future research explore this link to establish whether positive spillover occurs between the nonwork and work domain in the finance sector.

Because the reliability coefficient was low for the subscales used to examine perceived social support from supervisors and coworkers, we suggest that future researchers use a different measure to examine perceived levels of social support from work sources.

Finally, the homogeneity of our sample means that we cannot generalise our findings beyond employees in the finance sector. Therefore, future research could replicate the study using a more diverse sample to ensure that the results of this study are not unique to this sample.



### *Summary of Findings*

The finding that work strain in the finance sector has a significant relationship with perceptions of social support from significant others, and not work sources is important. The reason is that intervention programmes designed to alleviate work strain, may be able to operate with a deeper understanding of the effectiveness of these forms of support. Specifically, research on intervention programmes aimed at reducing work strain in the finance sector could be improved by including components that focus on enhancing perceived levels of social support from areas outside of work. Consequently, these strain management programmes should emphasise the importance of both developing and nurturing strong interpersonal relationships with significant others, which requires that employees are encouraged to seek work-life balance.

One of the clearest implications from this piece of research is that Anxiety levels concerning interpersonal relationships are predictive of work strain. It is critical that organisations build this relationship into strain management programmes, with the goal of helping individuals cope better with work strain.

An additional implication of the present study is that both Anxiety and Avoidance levels are predictive of perceived levels of social support from significant others, and these perceived levels of support are predictive of work strain. This finding emphasises the notion that individual differences should be considered during the design of work strain management programmes.

## REFERENCES

- Abdel-Halim, A. (1982). Social support and managerial affective responses to job stress. *Journal of Occupational Behaviour*, 3, 281-295.
- 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), 411-421.
- Aiken, L., & West, S. (1991). Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage. ?
- Ainsworth, M. D. S., Blehar, M.C., Waters, E., & Wall, S. (1978). Patterns of attachment: A psychological study of the strange situation. Hillsdale, NJ: Erlbaum.
- Babin, B. J., & Boles, J.S. (1996). The effects of perceived co-worker involvement and supervisor support on service provider role stress, performance and job satisfaction. *Journal of Retailing*, 72(1), 57-76.
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Clinical and Social Psychology*, 4(3), 359-373.
- Baron, R. M., & Kenny, D.A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Beehr, T. A. (1985). "The role of social support in coping with organizational stress." In T.A. Beehr and R.S. Bhagat (eds), *Human Stress and Cognition in Organizations*. New York: Wiley, 375-398.
- Beehr, T. A. (1995). *Psychological stress in the workplace*. New York: Routledge.

- Beehr, T. A., Jex, S.M., Stacy, B. A., & Murray, M.A. (2000). Work stressors and coworker support as predictors of individual strain and job performance. *Journal of Organizational Behavior, 21*(4), 391-405.
- Birnbaum, G. E., Orr, I., Mikulincer, M., & Florian, V. (1997). When marriage breaks up- Does attachment style contribute to coping and mental health? *Journal of Social and Personal Relationships, 4*, 643-654.
- Blau, G. (1981). An empirical investigation of job stress, social support, service length, and job strain. *Organizational Behavior and Human Performance, 27*, 279-302.
- Boey, K. W. (1999). Distressed and stress resistant nurses. *Issues in Mental Health Nursing, 19*, 33-54.
- Bowlby, J. (1960). Separation Anxiety. *International Journal of Psycho-Analysis, 60*, 89-113.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss: Sadness and depression*. New York: Basic Books.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2<sup>nd</sup> ed.). New York: Basic Books.
- Braboy Jackson, P. (1992). Specifying the Buffering Hypothesis: Support, Strain, and Depression. *Social Psychology Quarterly, 55*(4), 363-378.

- Brennan, K.A., Clark, C.L., & Shaver, P.R. (1998). Self-Report Measurement of Adult Attachment: An Integrative Overview. In J.A. Simpson, W.S. Rholes (eds), *Attachment Theory and Close Relationships*. Guilford: London, 46-76.
- Bryant, F. B., & Yarnold, P.R. (2000). Principal-components analysis and exploratory and confirmatory factor analysis. In L. G. Y. Grimm, and P.R. Yarnold (eds), *Reading and understanding multivariate statistics*. Washington, DC: American Psychological Association, 9-136.
- Burke, M. J., Borucki, C.C., & Hurley, A.E. (1992). Reconceptualizing psychological climate in a retail service environment: a multiple stakeholder perspective. *Journal of Applied Psychology*, 77(5), 717-730.
- Canan Sumer, H., & Knight, P.A. (2001). How Do People With Different Attachment Styles Balance Work and Family? A Personality perspective on Work-Family Linkage. *Journal of Applied Psychology*, 86(4), 653-663.
- Caplan, R. D., Cobb, S., French, J.R.P., Harrison, R.V., & Pinneau, S.R. (1975). Job Demands and Worker Health, U.S. Department of Health, Education and Welfare, HEW (NIOSH).
- Carlson, D. S., & Perrewe, P.L. (1999). The Role of Social Support in the Stressor-Strain Relationship: An Examination of Work-Family Conflict. *Journal of Management*, 25(4), 513-541.
- Chen, P. Y., Popovich, P. M., & Kogan, M. (1999). Let's talk: Patterns and correlates of social support among temporary employees. *Journal of Occupational Health Psychology*. 4(1), 55-62.
- Cobb, S. (1976). Social Support as a Moderator of Life Stress. *Psychosomatic Medicine* 38(5), 300-314.

- Coble, H. M., Gantt, D. L., & Mallinckrodt, B. (1996). Attachment, social competency, and the capacity to use social support. In G.R. Pierce, B.R. Sarason, and I.G. Sarason (eds), *Handbook of social support and the family*. New York: Plenum Press, 141-172.
- Cohen, S., Karmarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior*, 24, 385-396.
- Cohen, S., & Wills, T.A. (1985). Stress, Social Support, and the Buffering Hypothesis. *Psychological Bulletin*, 98(2), 310-357.
- Cole, S.R. (1999). Assessment of differential item functioning in the Perceived Stress Scale-10. *Journal of Epidemiology and Community Health*, 53(5), 319-320.
- Collins, N. L., & Read, S.J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality & Social Psychology*, 58(4), 644-663.
- Comrey, A.L., & Lee, H.B. (1992). *A first course in factor analysis*. Lawrence Erlbaum: New Jersey.
- Cutrona, C. E. (1989). Ratings of social support by adolescents and adult informants: Degree of correspondence and prediction of depressive symptoms. *Journal of Personality & Social Psychology*, 57(4), 723-730.
- Dakof, G. A., & Taylor, S.E. (1990). Victims' perceptions of social support. What is helpful from whom? *Journal of Personality and Social Psychology*. 58(1), 80-89.
- Davis, M. H., Morris, M.M. & Kraus, L.A. (1998). Relationship-Specific and Global Perceptions of Social Support: Associations With Well-Being and Attachment. *Journal of Personality and Social Psychology*, 74(2), 468-481.

- Dolan, S. L., Van Ameringen, M.R. & Arsenault, A. (1992). Personality, social support and workers' stress. *Industrial Relations (Canadian)*, 47(1), 125-139.
- Ducharme, L. J., & Martin, J.K. (2000). Unrewarding Work, Coworker Support, and Job Satisfaction: A Test of the Buffering Hypothesis. *Work and Occupations*, 27(2), 223-244.
- Eisenberger, R., Huntington, R., Hutchison, S. & Sowa, D. (1986). Perceived organisational support. *Journal of Applied Psychology*, 71(3), 500-508.
- Etzion, D. (1984). Moderating Effect of Social Support on the Stress-Burnout Relationship. *Journal of Applied Psychology*, 69(4), 615-622.
- Fenlason, K. J. B., & Beehr, T.A. (1994). Social support and occupational stress: effects of talking to others. *Journal of Organizational Behavior*, 15, 157-175.
- Florian, V., Mikulincer, M., & Bucholtz I. (1995). Effects of adult attachment style on the perception and search for social support. *The Journal of Psychology*, 129(6), 665-687.
- Folkman, S., & Lazarus, R.S. (1988). Coping as a Mediator of Emotion. *Journal of Personality and Social Psychology*, 54, 466-475.
- Fraley, R. C., & Waller, N.G., (1998). Adult Attachment Patterns: A Test of the Typological Model. In J. A. Simpson, and W.S. Rholes (eds), *Attachment theory and close relationships*. New York: Guildford Press, 77-114.
- Fraley, R. C. (2002). Attachment Stability From Infancy to Adulthood: Meta-Analysis and Dynamic Modeling of Developmental Mechanisms. *Personality and Social Psychology Review*. 6(2), 123-151.

- Froggatt, K. L. & Cotton, J.L. (1987). The impact of Type A behavior pattern on role overload-induced stress and performance attributions. *Journal of Management*, 13(1), 87-98.
- Frone, M. R., Russell, M., & Cooper, M.L. (1995). Relationship of Work and Family Stressors to Psychological Distress: The Independent Moderating Influence of Social Support, Mastery, Active Coping, and Self-Focused Attention. In R. Crandell, and P.L. Perrewe (Eds.), *Occupational stress*. Washington, DC:Taylor & Francis, 129-152.
- Ganster, D. C., Mayes, B.T., & Fusilier, M.R. (1986). Role of Social Support in the Experience of Stress at Work.. *Journal of Applied Psychology*, 71(1), 102-110.
- Ganster, D.C., & Schaubroeck, J. (1995). The moderating effects of self-esteem on the work stress-employee health relationship. In R. Crandall, and P.L. Perrewe (eds), *Occupational stress*. Washington, DC:Taylor & Francis, 167-178.
- Ganster, D. C., & Murphy, L. (2000). *Workplace interventions to prevent stress-related illness:Lessons from research and practice*. Massachusetts, USA: Blackwell Publishers.
- Geller, P. A., & Hobfall, S.E. (1994). Gender differences in job stress, tedium and social support in the workplace. *Journal of Social & Personal Relationships*. 11(4), 555-572.
- Granrose, C. S., Parasuraman, S., & Greenhaus, J.H. (1992). A proposed model of support provided by two-earner couples. *Human Relations*, 45(12), 1367-1394.
- Greenglass, E. R., Fiksenbaum, L., & Burke, R.J. (1995). The Relationship between Social Support and Burnout Over Time in Teachers. In R. Crandell, and P.L. Perrewe (eds), *Occupational stress*. Washington DC: Taylor & Francis, 239-248.

- Griffin, D., & Bartholomew, K. (1994). Models of the self and other: fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology*, 67(3), 430-446.
- Gurung, R. A. R., Sarason, B.R., & Sarason, I.G. (2001). Predicting Relationship Quality and Emotional Reactions to Stress From Significant-Other-Concept Clarity. *Personality & Social Psychology Bulletin*, 27(10), 1267-1276. ?
- Hagihara, A., Tarumi, K., & Miller, A.S. (1998). Social support at work as a buffer of work stress-strain relationship: A signal detection approach. *Stress Medicine*, 14, 75-81.
- Hardy, G. E., & Barkham, M. (1994). The Relationship Between Interpersonal Attachment Styles and Work Difficulties. *Human Relations*, 47(3), 263-281.
- Hart, P. M. (1999). Predicting Employee Life Satisfaction: A Coherent Model of Personality, Work and Nonwork Experiences, and Domain Satisfaction. *Journal of Applied Psychology*, 84(4), 564-584.?
- Hazan, C., & Shaver, P.R. (1987). Romantic love conceptualised as an attachment process. *Journal of Personality and Social Psychology*, 52, 511-524.
- Hazan, C., & Shaver, P.R. (1990). Love and Work: An Attachment-Theoretical Perspective. *Journal of Personality and Social Psychology*, 59(2), 270-280.
- House, J. S., and Wells, J.A. (1978). *Occupational stress, social support and health. Reducing Occupational Stress*. U.S: HEW (NIOSH) Publication.
- House, J.S., McMichael, A.J., Wells, J.A., Kaplan, B.H. and Landerman, L.R. (1979). Occupational stress and health among factory workers. *Journal of Health & Social Behavior*. 20(2), 139-160.



Howell, D.C. (2002). *Statistical methods for psychology*. Pacific Grove :Wadsworth

Jayarathne, S., Himle, D., & Chess, W.A. (1988). Dealing with Work Stress and Strain: Is the Perceptions of Support More important than its Use? *Journal of Applied Behavioral Science*, 24(2), 191-202.

Jex, S. M., & Spector, P.E. (1991). Relations of job characteristics from multiple data sources with employee affect, absence, turnover intentions, and health. *Journal of Applied Psychology*, 76(1), 46-54.

Johnson, J. H., & Sarason, I.G. (1978). Life stress, depression and Anxiety: Internal-external control as a moderator variable. *Journal of Psychosomatic Research*, 22(3), 205-208.

Kahn, H., & Cooper, C.L. (1993). *Stress in the dealing room*. London: Routledge.

Kahn, H., & Cooper, C.L. (1996). How Foreign Exchange Dealers in the City of London Cope with Occupational Stress. *International Journal of Stress Management*, 3(3), 137-145.

Kaufmann, G. M., & Beehr, T.A. (1986). Interactions Between Job Stressors and Social Support: Some Counterintuitive Results. *Journal of Applied Psychology*, 71(3), 522-526.

Kemp, A.A., & Neimeyer, G.J. (1999). Interpersonal Attachment: Experiencing, Expressing, and Coping With Stress. *Journal of Counseling Psychology*, 46(3), 388-394.

Kirchmeyer, C. (1992). Nonwork participation and work attitudes: a test of scarcity vs. expansion models of personal resources. *Human Relations*, 45(8), 775-796.

Kirchmeyer, C. (1993). Nonwork-to-work spillover: a more balanced view of the experiences and coping of professional women and men. *Sex Roles: A Journal of Research*. 28(9), 531-553.

- Klohnen, E. C., & John, O.P. (1998). Working Models of Attachment: A Theory-Based Prototype Approach. In J. A. Simpson, and W.S., Rholes (eds), *Attachment theory and close relationships*. New York:Guildford, 115-142. ?
- Kobasa, S. C. (1982). Commitment and Coping in Stress Resistance Among Lawyers. *Journal of Personality & Social Psychology*, 42(4), 707-717.
- Kobasa, S. C., & Puccetti, M.C. (1983). Personality and social resources in stress-resistance. *Journal of Personality and Social Psychology* 45, 839-850.
- Lakey, B., & Cassady, P. (1990). Cognitive processes in perceived social support. *Journal of Personality and Social Psychology*, 59, 337-343.
- Lambert, S. J. (1990). Processes Linking Work and Family: A Critical Review and Research Agenda. *Human Relations*, 43(3), 239-257.
- LaRocco, J. M., House, J.S. & French, J.R.P. (1980). Social Support, Occupational Stress, and Health. *Journal of Health and Social Behavior*, 21, 202-218.
- Leiter, M. P. (1990). The Impact of Family Resources, Control Coping, and Skill Utilization on the Development of Burnout: A Longitudinal Study. *Human Relations*, 43(11), 1067-1083.
- Leiter, M. P. (1991). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. *Journal of Organizational Behavior*, 12(2), 123-144.
- Levinson, H. (1973). Problems that worry executives. In A. J. Marrow (ed), *The failure of success*. New York: Amacom.

- Lopez, F. G. B., & Brennan, K.A. (2000). Dynamic Processes Underlying Adult Attachment Organization: Toward an Attachment Theoretical Perspective on the Healthy and Effective Self. *Journal of Counseling Psychology*. 47(3), 283-300.
- Lopez, F. G., Mauricio, A.M., Gormley, B., Simko, T., & Berger, E. (2001). Adult Attachment Orientations and College Student Distress: The Mediating Role of Problem Coping Styles. *Journal of Counseling and Development*, 79, 459-464.
- Main, M. (1990). Cross-cultural studies of attachment organization: Recent studies, changing methodologies, and the concept of conditional strategies. *Human Development*. 24(3), 415-426.
- Marcus, P. M., & House, J.S. (1973). Exchange between superiors and subordinates in large organizations. *Administrative Science Quarterly*. 18(2), 209-222.
- Mikulincer, M., & Florian, V. (1995). Appraisal of and Coping With a Real-life Stressful Situation: The Contribution of Attachment Styles. *Personality & Social Psychology Bulletin*, 21(4), 406-414.
- Mikulincer, M., Birnbaum, G., Woddis, D., & Nachmias, O. (2000). Stress and Accessibility of Proximity-Related Thoughts: Exploring the Normative and Intraindividual Components of Attachment Theory. *Journal of Personality and Social Psychology* 78(3), 509-523.
- Monnier, J., Stone, B.K., Hobfall, S.E., & Johnson, R.J., (1998). How antisocial and prosocial coping influence the support process among men and women in the U.S. Postal Service. *Sex Roles: A Journal of Research*, 39(1), 1-21.
- Moos, R. H. & Insel, P.M. (1981). *Work environment scale manual*. Palo Alto, CA: Consulting Psychologists Press.

- Moyle, P. (1995). The role of negative affectivity in the stress process: Tests of alternative models. *Journal of Organizational Behaviour*, 16(6), 647-668.
- O'Donnell, C., & Stephens, C. (2001). The Impact of Organisational, Social Environmental and Job Content Stressors on the Work Related Strains of Probation Officers. *The Australian and New Zealand Journal of Criminology*, 34(2), 193-203.
- Ognibene, T. C., & Collins, N.L. (1998). Adult Attachment Styles, Perceived Social Support and Coping Strategies. *Journal of Social and Personal Relationships*, 15(3), 323-345.
- Paton, D., Smith, L.M., Violanti, J.M., & Eranen, L. (2000). Work-related traumatic stress: Risk, vulnerability and resilience. In J.M. Violanti, D. Paton, and C. Dunning (eds), *Posttraumatic stress intervention*. USA: Charles C. Thomas, 187-204.
- Pelfrene, E., Vlerick, P., Kittel, F., Make, R.P., Kornitzer, M. & De Backer, G. (2002). Psychosocial work environment and psychological well-being: Assessment of the buffering effects in the job demand-control (-support) model in BELSTRESS. *Stress & Health*, 18(1), 43-56.
- Pierce, G. R., Sarason, B.R., & Sarason, I.G. (1991). General and Relationship-Based Perceptions of Social Support: Are Two Constructs Better Than One? *Journal of Personality and Social Psychology*, 61(6), 1028-1039.
- Pierce, G. R., Sarason, B.R., & Sarason, I.G. (1992). General and Specific Support Expectations and Stress as Predictors of Perceived Supportiveness: An Experimental Study. *Journal of Personality and Social Psychology* 63(2), 297-307.
- Pierce, J. L., Gardner, D.G., & Dunham, R.B. (1993). Moderation by organization-based self-esteem of role condition^employee response relationships. *Academy of Management Journal*, 36(2), 271-288.

- Pierce, G. R., Sarason, B.R., & Sarason, I.G. (1996). *Handbook of social support and the family*. New York:Plenum Press.
- Pines, A. M., Aronson, E., & Kafry, D. (1981). *Burnout from tedium to personal growth*. New York: The Free Press.
- Procidano, M. E., & Heller, K. (1983). Measures of perceived social support from friends and from family: Three validation studies. *American Journal of Community Psychology*, 11(1), 1-24.
- Rahim, A. (1996). Stress, strain, and their moderators: an empirical comparison of entrepreneurs and managers. *Journal of Small Business Management*. 34(1), 46-59.
- Rojewski, J.W., Schell, J.W., Reybold, E., & Evanciew, C.E.P. (1997). Perceived Structure of Advanced Cognitive Skills for Adolescents with Learning Disabilities. *Journal of Industrial Teacher Education*, 32(4). Retrieved August, 23, 2002 from <http://scholar.lib.vt.edu/ejournals/JITE/v32n4/rojewski.html>
- Rosenham, D.L., & Seligman, M.E.P. (1995). *Abnormal psychology*. Norton: New York.
- Rousseau, D. M. (1978). Relationship of Work to Nonwork. *Journal of Applied Psychology*, 63(4), 513-517.
- Sarason, I. G., Sarason, B.R., & Shearin, E.N. (1986). Social support as an individual difference variable: Its stability, origins, and relational aspects. *Journal of Personality & Social Psychology*. 50(4), 845-855.
- Sarason, I. G., Pierce, G.R., & Sarason, B.R. (1990). Social Support and interactional processes: A triadic hypothesis. *Journal of Social and Personal Relationships*, 7, 495-506.

- Sarason, B. R., Pierce, G.R., Bannerman, A., & Sarason, I.G. (1993). Investigating the Antecedents of Perceived Social Support: Parents' Views of and Behavior Toward Their Children. *Journal of Personality and Social Psychology*, 65(5), 1071-1085.
- Savery, L. K. (1986). Stress and the Employee. *Leadership & Organization Development Journal*. 7(2), 17-20.
- Schabracq, M. J., & Cooper, C.L. (2000). The changing nature of work and stress. *Journal of Managerial Psychology*, 15(3), 227-241.
- Schirmer, L. L., & Lopez, F.G. (2001). Probing the Social Support and Work Strain Relationship among Adult Workers: Contributions of Adult Attachment Orientations. *Journal of Vocational Behavior*, 59, 17-33.
- Searle, B. (2002). How much do we really know about stress? *Interface*, 2, 4 - 5.
- Shaver, P. R., & Fraley, R.C. (2001). Self-Report Measures of Adult Attachment. Retrieved May 6, 2002, from <http://tigger.uic.edu/~fraley/measures/measures.html>
- Simpson, J. A., Rholes, W.S., & Nelligan, J.S. (1992). Support Seeking and Support Giving Within Couples in an Anxiety-Provoking Situation: The Role of Attachment Styles. *Journal of Personality and Social Psychology*. 62(3), 434-446.
- Spector, P. E., Chen, C.Y., & O'Connell, B.J. (1985). A longitudinal study of relations between job stressors and job strains while controlling for prior negative affectivity and strains. *Journal of Applied Psychology*. 85(2), 211-218.
- Taylor, R. (2002). Producing under pressure. *New Zealand Herald*. Auckland.

- Thomas, L.T. & Ganster, D.C. (1995). Impact of family-supportive work variables on work-family conflict and strain: a control perspective. *Journal of Applied Psychology*, 80(1), 6-16.
- Tyler, P. & Cushway, D. (1995). Stress in nurses: The effects of coping and social support. *Stress medicine*, 11(4), 243-251.
- Unden, A. L. (1996). Social support at work and its relationship to absenteeism. *Work and Stress*, 10(1), 46-61.
- Viswesvaran, C., Sanchez, J.I., & Fisher, J. (1999). The Role of Social Support in the Process of Work Stress: A Meta-Analysis. *Journal of Vocational Behavior*, 54, 314-334.
- Waryszak, R. Z. (1999). Students' expectations from their cooperative education placements in the hospitality industry: An international perspective. *Education & Training*, 41(1), 33-40.
- Wilby, J. (1985) *Good career guide*, London: Sunday Times.
- Yarcheski, A., & Mahon N.E. (1999). The moderator-mediator role of social support in early adolescents. *Western Journal of Nursing Research*, 21(5), 685-698.
- Zedeck, S. (1992). Exploring the domain of work and family concerns. In S. Zedeck. *Work, families, and organizations*. San Francisco: Jossey-Bass, 1-32.

## **APPENDIX A**

INFORMATION SHEET - NZ PARTICIPANTS

INFORMATION SHEET - UK PARTICIPANTS

QUESTIONNAIRE



## **Information Sheet**

### **Coping with Work Strain in the Finance Sector.**

My name is Louise Davey. I am a Masters student at Massey University's Albany campus. My supervisor and I are conducting an exploratory study concerning coping with work strain in the finance sector, as we appreciate that work of this nature can at times be characterised as stressful. We would like to find out about the different ways that people in the finance sector cope with the everyday strains in their job. Clearly, there are no right or wrong answers in this domain, as what works for one person may not work for the next. This study is very exploratory. The information we gather in this study may eventually be used to help provide informed options so that individuals may minimise their own work strain.

#### **What are the requirements of participation?**

You will be asked to complete 10 questions about the degree of work strain you experience, then you will be asked to complete 36 questions about your experiences with a person who is close to you. The next section requires you to complete 18 true/false questions about your work environment. The final section requires you to complete 13 questions concerning your relationship with someone whom you are close to e.g., spouse, partner, family member or friend. You will then be required to send the completed questionnaire to the freepost address stated below.

**Freepost 167249**

**Louise Davey**

**P.O. Box 26018**

**Epsom**

**Auckland**

"This project has been reviewed and approved by the Massey University Regional Human Ethics Committee, Albany Campus, Protocol MUAHEC 02/037. If you have any concerns about the conduct of this research, please contact Associate-Professor Kerry Chamberlain, Chair, Massey University Regional Human Ethics Committee, Albany, telephone 09 443 9799, email K.Chamberlain@massey.ac.nz."

### Informed consent

It is assumed by the researcher that your completion and returning of an anonymously completed questionnaire means that you have given your consent to take part in the research.

The information collected from this research will be aggregated, analysed and written up into a Masters thesis and any subsequent reports, publications or conference presentations.

### How will your anonymity and confidentiality be protected?

Your identity will be totally protected as you are asked to anonymously complete the questionnaires. The researcher and researchers supervisor will not have access to your name, and the names of participating organisations will not be used in, or identifiable from, the thesis or any subsequent reports, publication or conference presentations.

On completion of the project all questionnaires and data recorded electronically will be stored in a locked cabinet for five-years, after which time they will be destroyed.

### What are your rights as a participant?

As a participant you have the right to decline to take part in this research, the right to refuse to answer any particular question(s), the right to withdraw from the study up to two weeks after data collection, and the right to ask any questions about the study at any time during participation. Additionally you have the right to be given access to a summary of the findings of the study when it is concluded (December 2002).

### Contact information

If you have any questions regarding any aspect of this research, the researcher can be contacted via email ([imdavey@attglobal.net](mailto:imdavey@attglobal.net)). Alternatively you can contact the researcher's supervisor Dr Stuart Carr on 09 4439700 ext 9073, or via email ([s.c.carr@massey.ac.nz](mailto:s.c.carr@massey.ac.nz)).

"This project has been reviewed and approved by the Massey University Regional Human Ethics Committee, Albany Campus, Protocol MUAHEC 02/037. If you have any concerns about the conduct of this research, please contact Associate-Professor Kerry Chamberlain, Chair, Massey University Regional Human Ethics Committee, Albany, telephone 09 443 9799, email [K.Chamberlain@massey.ac.nz](mailto:K.Chamberlain@massey.ac.nz)."

## **Information Sheet**

### **Coping with Work Strain in the Finance Sector.**

My name is Louise Davey. I am a Masters student at Massey University's Albany campus. My supervisor and I are conducting an exploratory study concerning coping with work strain in the finance sector, as we appreciate that work of this nature can at times be characterised as stressful. We would like to find out about the different ways that people in the finance sector cope with the everyday strains in their job. Clearly, there are no right or wrong answers in this domain, as what works for one person may not work for the next. This study is very exploratory. The information we gather in this study may eventually be used to help provide informed options so that individuals may minimise their own work strain.

#### **What are the requirements of participation?**

You will be asked to complete 10 questions about the degree of work strain you experience, then you will be asked to complete 36 questions about your experiences with a person who is close to you. The next section requires you to complete 18 true/false questions about your work environment. The final section requires you to complete 13 questions concerning your relationship with someone whom you are close to e.g., spouse, partner, family member or friend. You will then be required to send the completed questionnaire to the address stated below.

**L Davey,  
c/o J Vernon,  
16 Burlington ave,  
Kew, Richmond,  
Surrey TW9 4DQ**

"This project has been reviewed and ~~87~~ approved by the Massey University Regional Human Ethics Committee, Albany Campus, Protocol MUAHEC 02/037. If you have any concerns about the conduct of this research, please contact Associate-Professor Kerry Chamberlain, Chair, Massey University Regional Human Ethics Committee, Albany, telephone 09 443 9799, email K.Chamberlain@massey.ac.nz."

### Informed consent

It is assumed by the researcher that your completion and returning of an anonymously completed questionnaire means that you have given your consent to take part in the research.

The information collected from this research will be aggregated, analysed and written up into a Masters thesis and any subsequent reports, publications or conference presentations.

### How will your anonymity and confidentiality be protected?

Your identity will be totally protected as you are asked to anonymously complete the questionnaires. The researcher and researchers supervisor will not have access to your name, and the names of participating organisations will not be used in, or identifiable from, the thesis or any subsequent reports, publication or conference presentations.

On completion of the project all questionnaires and data recorded electronically will be stored in a locked cabinet for five-years, after which time they will be destroyed.

### What are your rights as a participant?

As a participant you have the right to decline to take part in this research, the right to refuse to answer any particular question(s), the right to withdraw from the study up to two weeks after data collection, and the right to ask any questions about the study at any time during participation. Additionally you have the right to be given access to a summary of the findings of the study when it is concluded (December 2002).

### Contact information

If you have any questions regarding any aspect of this research, the researcher can be contacted via email ([Imdavey@attglobal.net](mailto:Imdavey@attglobal.net)). Alternatively you can contact the researcher's supervisor Dr Stuart Carr on 09 4439700 ext 9073, or via email ([s.c.carr@massey.ac.nz](mailto:s.c.carr@massey.ac.nz)).

"This project has been reviewed and approved by the Massey University Regional Human Ethics Committee, Albany Campus, Protocol MUAHEC 02/037. If you have any concerns about the conduct of this research, please contact Associate-Professor Kerry Chamberlain, Chair, Massey University Regional Human Ethics Committee, Albany, telephone 09 443 9799, email [K.Chamberlain@massey.ac.nz](mailto:K.Chamberlain@massey.ac.nz)."

**QUESTIONNAIRE**

**To begin with we would like to ask you 10 questions about the degree of strain you tend to experience at work.**

Please respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided.

1	2	3	4	5
Never	Almost Never	Sometimes	Fairly Often	Very Often

**Please remember to answer the scale relating to your work place.**

1. In the last month, how often have you been upset because of something that happened unexpectedly? \_\_\_\_\_
2. In the last month, how often have you felt that you were unable to control things at work ? \_\_\_\_\_
3. In the last month, how often have you felt nervous and stressed? \_\_\_\_\_
4. In the last month, how often have you felt confident in your ability to handle problems? \_\_\_\_\_
5. In the last month, how often have you felt that things were going your way? \_\_\_\_\_
6. In the last month, how often have you found that you could not cope with all the things that you had to do? \_\_\_\_\_
7. In the last month, how often have you been able to control irritations that occurred? \_\_\_\_\_
8. In the last month, how often have you felt that you were on top of things? \_\_\_\_\_
9. In the last month, how often have you been angered because of things that happened, which were outside your control? \_\_\_\_\_
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? \_\_\_\_\_

**Have you answered the scale in relation to your work place?**

We would like to ask a few questions about how you *generally* experience close relationships. If you do not have a romantic partner, answer the questions concerning your relationship with a family member or close friend. Please respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided.

1	2	3	4	5	6	7
Very Strongly Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Very Strongly Agree

- 1

I prefer not to show a partner how I feel deep down.

2

I worry about being abandoned.

3

I am very comfortable being close to romantic partners.

4

I worry a lot about my relationships.

5

Just when my partner starts to get close to me I find myself pulling away.

6

I worry that romantic partners won't care about me as much as I care about them.

7

I get uncomfortable when a romantic partner wants to be very close.

8

I worry a fair amount about losing my partner.

9

I don't feel comfortable opening up to romantic partners.

10

I often wish that my partner's feelings for me were as strong as my feelings for him/her.

11

I want to get close to my partner, but I keep pulling back.

12

I often want to merge completely with romantic partners, and this sometimes scares them away.

13

I am nervous when partners get too close to me.

14

I worry about being alone.

15

I feel comfortable sharing my private thoughts and feelings with my partner.

16

My desire to be very close sometimes scares people away.

17

I try to avoid getting too close to my partner.

18

I need a lot of reassurance that I am loved by my partner.

19

I find it relatively easy to get close to my partner.

20

Sometimes I feel that I force my partners to show more feeling, more commitment.

21

I find it difficult to allow myself to depend on romantic partners.

22

I do not often worry about being abandoned.

23

I prefer not to be too close to romantic partners.

24

If I can't get my partner to show interest in me, I get upset or angry.

25

I tell my partner just about everything.

26

I find that my partner(s) don't want to get as close as I would like.

27

I usually discuss my problems and concerns with my partner.

28

When I'm not involved in a relationship, I feel somewhat anxious and insecure.

29

I feel comfortable depending on romantic partners.

30

I get frustrated when my partner is not around as much as I would like.

31

I don't mind asking romantic partners for comfort, advice, or help.

32

I get frustrated if romantic partners are not available when I need them.

33

It helps to turn to my romantic partner in times of need.

34

When romantic partners disapprove of me, I feel really bad about myself.

35

I turn to my partner for many things, including comfort and reassurance.

36

I resent it when my partner spends time away from me.

We would like to ask you a few questions about your work environment. In particular, how supportive you find your supervisor and colleagues. The statements are intended to apply to all work environments. However some words may not be quite suitable for your work environment. For example, the term supervisor is meant to refer to the boss, manager, department head, or the person or persons to whom an employee reports.

You are to decide which statements are true of your work environment and which are false. Please circle T or F, whichever applies to your work environment

- |     |  |   |   |
|-----|--|---|---|
| 1.  | People go out of their way to help a new employee feel comfortable.                    | T | F |
| 2.  | Supervisors tend to talk down to employees.  | T | F |
| 3.  | The atmosphere is somewhat impersonal.   | T | F |
| 4.  | Supervisors usually compliment an employee who does something well.                    | T | F |
| 5.  | People take a personal interest in each other.   | T | F |
| 6.  | Supervisors tend to discourage criticisms from employees.                              | T | F |
| 7.  | Employees rarely do things together after work.  | T | F |
| 8.  | Supervisors usually give full credit to ideas contributed by employees.                | T | F |
| 9.  | People are generally frank about how they feel.  | T | F |
| 10. | Supervisors often criticise employees over minor things.                               | T | F |
| 11. | Employees often eat lunch together.  | T | F |
| 12. | Employees generally feel free to ask for a raise.                                      | T | F |
| 13. | Employees who differ greatly from the others in the organisation<br>don't get on well. | T | F |
| 14. | Supervisors expect far too much from employees.  | T | F |
| 15. | Employees often talk to each other about their personal problems.                      | T | F |
| 16. | Employees discuss their personal problems with supervisors.                            | T | F |
| 17. | Often people make trouble by talking behind others' backs.                             | T | F |
| 18. | Supervisors really stand up for their people.  | T | F |



We are interested in your relationship with an individual whom you perceive as providing you with the *most support* in your life (e.g., wife/husband, partner, family member, close friend). Please answer the questions concerning the supportiveness of this relationship.

Please read each statement, and then circle the number that describes this relationship based on the rating scale.

	-1-	-2-	-3-	-4-					
	Not at all	A little	Quite a bit	Very much					
1.	To what extent could you turn to this person for advice about problems?				1	2	3	4	
2.	To what extent could you count on this person for help with a problem?				1	2	3	4	
3.	To what extent can you count on this person to give you honest feedback, even if you might not want to hear it?				1	2	3	4	
4.	To what extent can you count on this person to help you if a family member very close to you died?				1	2	3	4	
5.	How positive a role does this person play in your life?				1	2	3	4	
6.	How significant is this relationship in your life?				1	2	3	4	
7.	How close will your relationship be with this person in 10 years?				1	2	3	4	
8.	How much would you miss this person if the two of you could not see or talk with each other for a month?				1	2	3	4	
9.	If you wanted to go out and do something this evening, how confident are you that this person would be willing to do something with you?				1	2	3	4	
10.	How responsible do you feel for this person's well-being?				1	2	3	4	
11.	How much do you depend on this person?				1	2	3	4	
12.	To what extent can you count on this person to listen to you when you are very angry at someone else?				1	2	3	4	
13.	To what extent can you really count on this person to distract you from your worries when you feel under stress?				1	2	3	4	



**APPENDIX B: Factor Matrices.**

**Perceived Stress Scale**

Initial Factor Analysis

Item	Factor 1 (Strain)
PSS1	.627
PSS2	.606
PSS3	.657
PSS4	.555
PSS5	.634
PSS6	.606
PSS7	.529
PSS8	.708
PSS9	.677
PSS10	.744

**Quality of Relationship Inventory**

Initial Factor Analysis

Item	Component 1 (Perception of Social Support)
QRI 2	.768
QRI 13	.767
QRI 1	.712
QRI 9	.690
QRI 12	.688
QRI 3	.646
QRI 4	.620

**APPENDIX C: Posthoc Analyses.**

Hierarchical multiple regression analyses of direct effects (United Kingdom).

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
Anxiety	.208	.046	.596	4.515***	33.8
Avoidance	.098	.062	.252	1.586	3.8
Social support	-.883	.266	-.479	-3.316**	20.8
(Significant other)					
Social support	.166	.419	.065	.397	2.3
(Coworker)					
Social support	.498	.714	.114	.697	1.4
(Supervisor)					
<b>Dependent variable:</b>					
<b>Social support</b>					
<b>(Significant other)</b>					
Anxiety	-.060	-.030	-.315	-2.017*	7.5
Avoidance	-.073	.033	-.347	-2.250*	9.7
<b>Dependent variable:</b>					
<b>Social support</b>					
<b>(Coworker support)</b>					
Anxiety	-.026	.022	-.195	-1.208	1.2
Avoidance	-.005	.025	-.035	-.212	2.6
<b>Dependent variable:</b>					
<b>Social support</b>					
<b>(Supervisor Support)</b>					
Anxiety	-.011	.013	-.142	-.872	.06
Avoidance	-.012	.015	-.130	-.796	1

\*p<.05, \*\*p<.01, \*\*\* p<.001

B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
Beta = Standardised Beta

Hierarchical multiple regression analyses of direct effects (New Zealand).

	B	SEB	Beta	t	Adjusted r <sup>2</sup> (%)
<b>Dependent variable:</b>					
<b>Work Strain.</b>					
Anxiety	.114	.059	.287	1.916	6.0
Avoidance	.036	.057	.096	.618	1.5
Social support (Significant other)	-.146	.251	-.090	-.580	1.6
Social support (Coworker)	.100	.424	.037	.236	2.4
Social support (Supervisor)	-.381	.631	-.094	-.604	1.5
<b>Dependent variable:</b>					
<b>Social support (Significant other)</b>					
Anxiety	-.081	.036	-.329	-2.234*	8.7
Avoidance	-.103	.032	-.452	-3.247**	18.5
<b>Dependent variable:</b>					
<b>Social support (Coworker support)</b>					
Anxiety	.027	.022	.182	1.184	1.0
Avoidance	-.002	.016	-.011	-.095	1.2
<b>Dependent variable:</b>					
<b>Social support (Supervisor Support)</b>					
Anxiety	.008	.015	-.085	-.546	1.7
Avoidance	.0036	.014	.04	.255	2.3

\*p<.05, \*\*p<.01, \*\*\* p<.001

B= Unstandardised Beta, SEB = Unstandardised Standard Error,  
Beta = Standardised Beta