The impact of environmental resources on the stress process: Encouraging positive outcomes in the workplace.

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Abstract

The present study investigated resources in the organisational environment which would increase the likelihood of positive outcomes from the stress process. 120 Participants from a large New Zealand organisation filled out an on-line questionnaire assessing demands, primary appraisals, coping strategies and positive and negative stress outcomes. The organisational resources of control, role clarity, peer relations and leader relations were also measured.

Bivariate correlations indicated that control, role clarity, peer and leader relations were all associated with increased positive stress outcomes and decreased negative outcomes. Multiple regression analysis suggested that environmental resources affected stress outcomes in a positive way by mediating the relationship between demands and challenge appraisals, as well as by directly increasing the likelihood of more effective coping strategies.

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CHAPTER 1: STRESS

Occupational stress has become a subject of substantial interest to the business community, as well as to society at large. In fact, few areas of modern psychology receive more attention than stress (Hobfoll, 1989; Lazarus & Folkman, 1984). While there is a wealth of research literature on stress, its antecedents, outcomes, and mediators, there is some degree of confusion over what exactly stress is. Different authors often use the term "stress" to label quite distinct variables. According to Beehr and Franz (1987), stress "has commonly been defined in one of three ways: as an environmental stimulus often described as a force applied to the individual, as an individual's psychological or physical response to such an environmental force, or as the interaction between these two events" (p. 6).

Lazarus and Folkman (1984) also commented on the vagueness of the term stress, and suggested that it might be best not to use it to describe variables but rather as a process consisting of many variables and interactions. This idea is also reflected in Beehr's (1987) suggestion that stress be used to describe the general process linking demands, strain (distress) and coping rather than to describe specific variables. Following this idea of stress as a process, the present research will use Lazarus and Folkman's definition which states that stress is "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 9).

1.1. Stress and the individual

Research has linked stress to a variety of negative physical, behavioural and psychological outcomes for the individual. Barling, Kelloway and Frone (2005) lists hypertension, stroke, cancer, ulcers, migraine headaches, drug use, sleep disturbance, anger, depression, anxiety, burnout and posttraumatic stress syndrome as a few examples of the possible consequences of stress. Naturally, these negative consequences not only affect individuals in the occupational setting where the stress originates, but may spill over into other domains of life such as family interactions. Acknowledging this multitude of negative stress outcomes, the World Health Organisation acknowledged stress to be one of the top ten influences on physical and psychological health in the western world (Wilkinson & Marmot, 1998).

1.2. Stress and the organisation

A number of incidents in New Zealand, such as the suicides of two trainee doctors, highlighted the importance of occupational stress and prompted the New Zealand Minister of Labour to direct the Department of Labour to develop guidance about stress, fatigue and shiftwork (Walls & Darby, 2004). Considering the potential negative impact of occupational stress, and the fact that office workers in New Zealand considered their occupation to be the biggest source of stress in their lives (Sullivan, 1995), the Health and Safety in Employment Act was amended in 2002, redefining the term harm to include "illness, injury or both and includes physical or mental harm caused by work-related stress" (Occupational Safety and Health Service, 2003a). Employers in New Zealand organisations now have an obligation to work with employees to ensure safety at work and that no action or inaction should cause harm (including harm caused by stress) to those at work.

Aside from the legal obligations faced by New Zealand organisations, stress can impact the organisation in several ways. Barling, Kelloway and Frone (2005) outlined the possible adverse organisational effects of stress, including low organisational commitment, absence due to illness, compensation claims, accidents and injuries, and poor job performance. Estimates suggest that stress related issues are at the core of between 60 and 80 percent of workplace injuries (Wharton, 2002). Other researchers have also shown that stress can negatively affect discretionary job performance (such as working overtime) and employee turnover (see for example Maslach, Schaufeli & Leiter, 2001). All these negative stress outcomes will in the end impact the organisation in terms of financial loss. It is therefore in the organisation's best interest to take an active role in dealing with occupational stress. However, while negative outcomes are certainly a possibility that should be avoided, it should not be taken for granted that stress is in and of itself a negative phenomenon that needs to be eliminated. In fact, successful navigation of the stress process can create beneficial results for both the individual and the organisation.

1.3. The positive side of stress

Most people regard the outcomes of stress in terms of the negative. Feelings of panic, depression and anxiety are generally what people think of when they consider stress. The fact that the research literature on stress has had a predominant focus on the negative outcomes would seem to support a general viewpoint that stress is in and of itself a negative occurrence (Wright & Cropanzano, 2004). In keeping with the view that stress leads to negative physical and psychological outcomes, research has focused on the elimination or minimisation of stress, and on how individuals can manage the negative consequences in instances where stress is inevitable.

According to Nelson and Simmons (2003), this approach stems from the medical model from which the current conception of work stress evolved. The medical model, and therefore the operational definition of psychological health for most researchers, is the absence of disease or infirmity (Nelson & Simmons, 2003). In terms of stress, its absence or control is thus thought to be optimal for healthy psychological functioning. Yet the distress and poor psychological health most people equate with stress is not the only way people actually respond to stressful situations.

Hans Selye, (1987) lamented the fact that the majority of people do not distinguish between stress and distress. The common view that stress is synonymous with distress or negative outcomes has strengthened the research approach which focuses on stress avoidance as a pathway to better mental health. Yet Selye states what should be obvious; that complete freedom from stress is death. Not only is stress an unavoidable aspect of life, it is not necessarily an aversive state to be in, nor does it always mean unpleasant emotion will follow. Both pleasant *and* unpleasant emotional states are accompanied by an increase in physiological stress, but not necessarily distress (Selye, 1897). Selye explains that the concept of stress needs to include not only distress, but also the pleasant experiences of joy, fulfilment, and self-expression.

Most if not all people will at some point in their lives encounter a stressful situation and regard it as a challenge, a positive opportunity for personal growth. Instead of feeling "stressed", they will experience positive affective states such as motivation, energy and inspiration. The fact that distress is by far *not* a universal response to stress has been recognised (for example Cotton & Hart, 2003; Lazarus & Folkman, 1984), and this has lead to the relatively recent movement towards a more positive psychology.

Abraham Maslow first introduced the term "positive psychology" in his 1954 book "Motivation and Personality", laying out a research agenda to investigate concepts such as growth, self-sacrifice, love and optimism (Nelson & Simmons, 2003). Over 50 years ago, the World Health Organisation (1984) defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". Reflecting this growing interest in a more positive and holistic approach to health, New Zealand's own Department of Labour's Occupational Safety and Health Service (2003b) published a guideline to support amendments to the Health and Safety in Employment Amendment Act which emphasised that a focus on healthy work is more sensible than a focus on stressors. Despite these early calls for an emphasis on strengths rather than on trying to fix weaknesses, research has been reluctant to let go of its focus on the negative. This explains why there is such an abundance of publications on the negative consequences of stress; while relatively little attention has been paid to the positive potential of the stress process.

However, the positive psychology movement has to some extent encouraged a shift towards a more holistic view of psychological health and the stress process, which includes positive outcomes. This is particularly relevant to organisational psychology since research has shown that stressful events in the workplace context can in fact lead to perceptions of positive benefit (Nelson & Simmons, 2003). As such, there has been an increase in research on how people achieve positive states such as happiness or inspiration in the workplace, an arena in which previously the negative outcomes of stress predominated. Research as also demonstrated that positive work experiences and positive emotional responses do influence individual wellbeing outcomes (e.g. Diener, 2000), making their study important in the promotion of a healthy workforce.

Whereas the negative consequences of stress have been labelled distress (Selye, 1987) the positive outcomes have been given different labels by different authors. Some of the more well-known concepts in the positive psychology approach include flow, engagement, morale and eustress. However, the strong similarities between these constructs suggest that they are highly interrelated, and the present research will argue that the positive side of stress outcomes could be more parsimoniously labelled "eustress".

Flow

Csikszentmihalyi and his colleagues (2005) describe flow as the subjective state people experience when they are completely involved in something to the point of losing track of time, fatigue, and everything else but the activity itself. That such a state is generally considered enjoyable requires some explanation. The history of this concept centres on the idea that people are motivated towards mastery and control. Csikszentmihalyi explains that while the Darwinian revolution highlighted sexuality as the master need from which all other interests and motivations derive, an evolutionary explanation of behaviour is of course much more complex. Human survival depended not just on reproduction but on coping with and manipulating hostile and changing environments. Natural selection would therefore favour those individuals who enjoyed acts of mastery and control, as well as associated behaviours such as the pursuit of skills and relishing of challenges (Csikszentmihalyi, Abuhamdeh & Nakamura, 2005).

The underlying idea in flow is therefore that the ability to operate effectively in the environment fulfils a primary human need (Csikszentmihalyi et al., 2005). This idea is not a new one. In the early 1900's German researchers Karl Groos and Karl Buhler

outlined the concept of "Funktionlust" or activity pleasure, a construct that Jean Piaget later included in the earliest stages of his theory of sensori-motor development as the pleasure of being a causal agent, which drove infants to experiment (Csikszentmihalyi et al., 2005). Hebb (1955) and Berlyne (1960) argued that exploratory behaviour and the seeking of novelty could be explained by the nervous system's need for optimal levels of stimulation. While these researchers couched their theories in terms of the need for mental and sensory stimulation, their ideas reflect a general human drive towards some level of stress. The mastery experiences that people enjoy and often seek out are not possible without some challenge to overcome, and challenges do not occur without a certain level of associated stress.

The flow experience can be regarded as an outcome of coping effectively with challenge and achieving mastery. Csikszentmihalyi (1975) investigated the nature and conditions of enjoyment by interviewing chess players, rock climbers, dancers, and others who identified enjoyment as the main reason for their activity. Based on these studies Csikszentmihalyi outlined flow as an intense experiential involvement in moment to moment activity, where the individual functions at fullest capacity. Three additional subjective characteristics of the experience were also commonly reported. These were: a merging of action and awareness where attention was fully invested, a sense of control, and an altered sense of time where people reported time passing quickly. These characteristics contributed to the experience of flow as an enjoyable one. Nakamura et al. (2002) reported that flow is indicated by the presence of positive emotion, specifically, high activation positive affect.

High activation positive affect includes states in which people feel energised, motivated or inspired, for example. Low activation positive affect would be calmness or relaxation, and is not associated with flow (Csikszentmihalyi et al., 2005). This makes sense when one considers that flow results from coping with challenge, and in these stressful (not distressful) situations emotions such as relaxation would be out of place. The concept of challenge is highly important to understanding flow.

When an individual perceives environmental challenges to be greater than his or her ability to cope with them, anxiety and distress are likely to follow, especially if the particular challenge is important in terms of affecting well-being in some way (Csikszentmihalyi et al., 2005). Boredom may also result if the challenge is deemed both too difficult and unimportant. On the other hand, when challenges are perceived as being far outweighed by the individual's skills and abilities, the person is likely be relaxed or, again, bored. However, when there is a balance between perceived challenge and skill, flow can occur.

Nakamura and Csikszentmihalyi (2002) state that it is challenges which neither overmatch nor under-utilise an individual's skills, and which *stretches* the person that will lead to conditions of flow. Skill stretching is inherent in the concept of flow; balance of skill and challenge alone is not enough. It is important that there is a balance which is above average levels for the individual. Therefore, flow is expected to occur when individuals perceive greater opportunities for mastery (challenge) than they encounter on average in their daily lives, and have adequate skills to engage them (Nakamura et al., 2002).

Flow has been shown to provide benefits both to individuals and by extension, organisations. Experiences of flow act as powerful intrinsic motivators, since individuals generally need activities to be enjoyable for them to continue (unless of course extrinsic motivators such as pay come into play). Flow has also been linked to personal growth and skill development (see for example Csikszentmihalyi et al., 2005; Heine, 1997; Wong & Csikszentmihalyi, 1991). It is only during states of high activation that individuals are pushed to expand their existing capacities, which is why flow (since it is high activation positive affect) is so important.

Over time, a stretching balance between challenge and skills will enhance competence. As individuals master new challenges, skills increase, making those challenges less engaging. Since flow is intrinsically rewarding, individuals will seek (and eventually master) increasingly greater challenges in order to keep experiencing flow (Nakamura et al., 2002). Furthermore, studies have found strong positive associations between flow and performance in fields such as maths (Heine, 1997), creativity (Perry, 2005), and learning (Rathunde & Csikszentmihalyi, 1993).

Engagement

Engagement is another popular concept in the positive psychology literature. It was developed by Maslach and his colleagues as part of their research on the phenomenon of burnout in the workplace (Frydenberg, 2002). Burnout is a syndrome of exhaustion, cynicism and ineffectiveness which occurs as a response to chronic emotional and interpersonal stressors in the workplace (Maslach, Schaufeli & Leiter, 2001). Research findings support the notion that burnout is generally a response to overload, and has negative effects on job performance as well as physical and psychological health

(Maslach et al., 2001). Maslach and his colleagues suggest that engagement is the antithesis of this syndrome.

Whereas burnout is characterised by exhaustion and ineffectiveness, engagement (like flow) is an energetic, involved and effective state. Schaufeli (in Maslach et al., 2001) defines engagement as a "positive affective-emotional state of fulfilment that is characterised by vigour, dedication and absorption" (p.21). "Vigour" refers to the high levels of energy and resilience experienced by employees who are engaged in their work. "Dedication" describes a strong involvement in work, which is accompanied by feelings of enthusiasm, pride and inspiration. Finally, Schaufeli describes "Absorption" as a pleasant state of total immersion in work, characterised by time passing quickly and employees being unable or unwilling to detach themselves from their work.

Considering absorption is a state of total immersion in work, and flow is defined as a state where people are completely involved in something, both constructs involving an altered sense of time and full investment of attention, it becomes clear that absorption is simply another word for flow in the workplace. In this way, since absorption is an aspect of engagement, flow becomes a component of the bigger construct of engagement. Like flow, engagement is characterised by high levels of activation and pleasure (Maslach et al., 2001). Furthermore, in line with the flow literature, the burnout and engagement approach focuses on the match, or fit between employee and work environment. According to Frydenberg (2002), the engagement research suggests that the greater the mismatch, the greater the likelihood of burnout, whereas the greater the fit, the greater the likelihood of engagement occurring. This corresponds to the idea outlined above that a balance (or match) between skills and challenge will increase the

chances of flow. The superficial difference lies simply in the fact that the engagement literature places the construct specifically within the workplace environment.

Morale

In what is a recurrent theme amongst these positive constructs of flow and engagement, morale also reflects a pleasurable emotional state, characterised by such terms as energy, enthusiasm and pride (Cotton & Hart, 2003). The construct of morale was proposed by Cotton and Hart as part of their organisational health framework. Within this framework distress is posited as only one part of the wider construct of occupational wellbeing, which includes both emotional and cognitive components. In essence, Cotton and Hart state that the wellbeing of an employee has a cognitive component (here called job satisfaction) which reflect the employee's judgement about his or her level of satisfaction with work. The second, emotional component consists of two aspects: negative affect (distress) and positive affect (morale).

Distress and morale are distinct constructs and have different sets of determinants and outcomes (Cotton & Hart, 2003), and research supports the idea that distress and morale make independent contributions to wellbeing (for example Hart, 1994). The idea that positive and negative emotional factors are independent of each other has also been investigated (with similar results) in other related areas of research, such as quality of life research (e.g. Heady & Wearing, 1992). Importantly, this idea corresponds with engagement research.

While Maslach & Leiter propose engagement to be one end of a continuum in the relationship people establish with their jobs, Schaufeli takes a different approach,

defining engagement in its own right (Maslach, Schaufeli & Leiter, 2001). While engagement is the positive antithesis of burnout, it is an independent construct. So both morale and engagement (and flow by implication) are distinct workplace outcomes, characterised by positive emotional states.

Eustress

The term eustress was first introduced by Hans Selye (1974) who proposed it as an alternative outcome of the stress process. Eustress and distress are distinguishable from each other by affective state and as such eustress has been defined as a positive psychological response to a stressor, indicated by the presence of positive affective states (McGowan et al., 2006). Nelson and Simmons (2003) outlined several indicators of eustress, including hope, task engagement and state positive affect.

Hope has been defined as a belief that one has both the will and the way to succeed (Nelson & Simmons, 2003). Put in a different way, individuals will experience this indicator of eustress when they believe that they will be able to cope with particular demands to meet their goals. This reflects back to the idea that a balance of skills and challenge will lead to the experience of flow. Task engagement is another indicator of eustress, and is a state of being enthusiastically involved in and pleasurably occupied by the work at hand (Nelson & Simmons, 2003). This is reminiscent of both engagement and flow.

Finally, state positive affect (which is morale according to Cotton & Hart, 2003), a condition of pleasurable engagement, energy and enthusiasm was reported as an indicator of eustress by Nelson and Simmons (2003). Not only is positive affect the

foundation of all the aforementioned positive outcome constructs, but at this point it becomes increasingly clear that labels such as engagement, eustress, flow and morale are so similar that they basically become interchangeable. The following two definitions highlight this point. Ganster and Schaubroeck (1991) said that eustress was the healthy state of physiological arousal experienced by *engaged* workers. Nelson & Simmons (2005) stated that happiness *derived from engagement* (in other words, eustress according to Ganster and Schaubroeck's definition) can also be called flow. Keeping this in mind, the present research will therefore subsume all these positive affect outcomes under one label: eustress.

1.4. Eustress and the individual

The importance of eustress, both to the individual and the wider organisation, becomes apparent when one considers the role of positive emotion in building personal resources and psychological resilience. The broaden and build theory of positive emotions (Fredrickson, 2006) outlines the mechanism by which positive emotions operate. This theory is called the broaden and build theory because positive emotions appear to broaden people's momentary thought-action repertoires and build their enduring personal resources (Fredrickson, 2006).

Momentary thought action repertoires refer to the menu of actions that immediately come to mind when an individual is faced with an environmental demand. Negative emotions tend to narrow people's momentary thought action tendencies so that quick and decisive action is facilitated (Isen, 2000). For example, when faced with a hungry sabre-toothed tiger the subsequent negative (fear) emotions ensure that only a few immediate options spring to mind – fight or flight. While this may have been a useful

mechanism to people who regularly faced dangerous situations such as sabre-toothed tigers, it is somewhat less useful in a business environment where narrow thought action tendencies may also impair creative problem-solving.

On the other hand, positive emotions have been shown to broaden people's momentary thought action repertoires, widening the array of thoughts and action that come to mind (Isen, 2000). According to Isen, positive emotions broaden scopes of attention, cognition and action, and build physical, intellectual and social resources. For example, exploration, prompted by the positive emotion interest, creates knowledge and intellectual complexity. Playfulness, prompted by joy, can build social resources such as establishing future sources of social support. Importantly, the personal resources accrued during states of positive emotion are durable, outlasting the transient emotional states that lead to their acquisition (Fredrickson, 2006). There are several ways in which positive emotions contribute to psychological wellbeing.

Positive emotions undo lingering negative emotions. This idea is based on the undo hypothesis, which states that if negative emotions narrow the thought action repertoire, and positive emotions broaden it, then positive emotions should serve as an effective antidote for the effects of negative emotions (Fredrickson, 2006). Several researchers have observed that positive emotions are somehow incompatible with negative emotions (for example Baron, 1976; Fredrickson & Levenson, 1998) although the precise mechanism for this incompatibility is not known.

Fredrickson and Levenson (1998) showed that positive emotions such as mild joy and contentment have the ability to undo the lingering cardiovascular effects of negative

emotions such as anxiety. Positive emotions can therefore play an important role in aiding recovery from distress (Wright & Cropanzano, 2004). Accordingly, Folkman (1997) states that positive affect may help people cope with chronic stress. On a practical level, it is important to avoid the overly simplistic and perhaps dangerous interpretation that distress in the workplace can therefore be completely ignored so long as individuals also experience some eustress. However, it may be that eustress generation could be one way to help employees cope with stressful work. Literature supports the claim that positive affect helps people cope with stress and adversity (for example Aspinwall & Taylor, 1997; Folkman & Moskowitz, 2000).

Since positive emotions broaden scopes of attention and cognition, enabling flexible and creative thinking, they should also augment people's coping resources. One mechanism by which this might occur is through the effect of positive emotion on psychological resilience, a consequential trait that predicts both psychological wellbeing and growth, and psychological recovery (Fredrickson, 2006). It is likely that positive emotions may fuel psychological resilience, as shown in a study by Tugade and Fredrickson (2002). The link between positive emotion and resilience, as well as evidence for the undo hypothesis suggest that people may improve their psychological and perhaps physical health by cultivating experiences of positive emotion to cope with negative emotion. The end result is that positive emotions lead to more creative, knowledgeable, resilient, socially integrated and healthy individuals (Fredrickson, 2006). It is not surprising then that over the long term, eustress may result in positive changes in wellbeing, growth, adaptability and performance (Quick, Nelson & Quick, 1990).

1.5. Eustress and the organisation

The fact that eustress facilitates psychological wellbeing should be of interest to organisations. The Health and Safety in Employment Act 1992 requires that both employees and employers ensure safety at work and that no action or inaction should cause harm to those at work. In 2002 this act was amended, redefining the term harm to include "illness, injury or both and includes physical or mental harm caused by work-related stress" (Health and Safety in Employment Act, 1992). That the positive emotions of eustress may aid employees' recovery from distressful situations should therefore ideally be enough to warrant interventions aimed at facilitating eustress. However, as noted by Cotton and Hart (2003), researchers need to recognise that a happy workforce is of little value to an organisation unless they are also shown to be performing efficiently and productively. Eustress, through its effect on psychological wellbeing, is likely to influence organisational performance.

Researchers have long been interested in the idea that happier workers are more productive workers. Prior research however, have not supported the strong practical appeal of this idea and results have often been disappointing (Wright & Cropanzano, 2004). Recent research has operationalised happiness as psychological wellbeing, a subjective experience that includes both the relative presence of positive emotion and the relative absence of negative emotion. A growing body of empirical research has found significant links between various measures of both subjective and objective job performance and psychological wellbeing. For example, Warr (2005) states that employees' subjective wellbeing influences performance on the job, absenteeism, turnover, and discretionary activities such as voluntary overtime.

According to Wright and Cropanzano (2004), recent research has consistently demonstrated that high levels of psychological wellbeing can boost performance on the job. It is little wonder then that eustress has been linked to increased performance (see Quick, Nelson & Quick, 1990 for an example of how flow can increase creativity). Since eustress can help create more adaptive, creative and high performing employees, it could provide a competitive advantage to organisations striving for success in highly volatile markets.

CHAPTER 2: THEORETICAL MODELS OF STRESS AND WELLBEING

2.1. Stimulus response models

Most research uses either a stimulus-response model or a transactional model to conceptualise the stress process (Cassidy, 1999). Stimulus-response (or input-output) approaches view stress as a relatively simple, often linear relationship between a stimulus (often called a "stressor") and a response (often referred to as "strain"). Early research with this type of model looked at, for example, the extent to which features of work design could predict outcomes such as cardiovascular disease (Jones & Bright, 2001). A good example of these types of model is Warr's (1987) vitamin model, which identifies nine key features of the environment (the stimulus) and hypothesises relationships between these features and psychological well-being (the response). Warr draws an analogy where these environmental features act as "vitamins" in that low levels will lead to poor mental health while higher levels will lead to better mental health.

As with vitamins, excessive levels of these features may also be harmful. For example, too much opportunity for control may have a negative effect on mental health. This type of curvilinear relationship between stimulus and response is not often found in research using stimulus-response models; perhaps because studies rarely encompass a wide enough range of jobs to include both those where people feel they have too much or too little control (Jones & Bright, 2001). Warr's (1987) vitamin model, and indeed stimulus-response models in general tend not to confront the issue of how different stimuli or stressors interact with each other or with individual differences. This aspect is addressed by interactional approaches discussed below.

2.2. Interactional models

The demand control model

Interactional approaches still very much adhere to the basic stimulus-response tradition (Jones & Bright, 2001). However, while they also place a heavy emphasis on environmental factors, these models include the possibility of interactions between stressor variables and may also take individual differences into account. A well-known interactional approach is Karasek's demand-control model. According to Jones and Bright (2001), this model only focuses on two aspects of work, job demands (which refers in this case to volume and pace of work as well as conflicting demands) and decision latitude (which is essentially discretion or control). An emphasis is placed on the importance of a balance between demands and control (Nelson & Simmons, 2003).

Karasek proposes that there are essentially four types of jobs resulting from the various interactions between job demands and control. These are summarised by Jones and Bright (2001) as follows: a combination of high job demands and low levels of control would lead to high levels of strain (psychological and physical), classified as a "high strain" job. Alternatively, low levels of demand coupled with high levels of control would be a "low strain" job. Jobs which have low levels of both demands and control are "passive" jobs, which may result in learned helplessness and reduced activity, whereas jobs with high levels of both demands and control are "active" jobs. These active jobs are not overly stressful since high levels of control would afford employees opportunities to develop protective behaviours such as delegation to deal with high levels of work demands. Active jobs also include the possibility of eustress, although this is generally overlooked.

Karasek's (1990) research does show evidence of the importance of control in reducing distress. However, Jones and Bright (2001) state that in general the evidence is stronger for the importance of control than it is for the full model, with relatively few researchers finding the predicted interaction between demand and control. Furthermore, this model has a relatively narrow focus and has had limited impact on practice (Jones & Bright). This may well be because its key variables are too general and non-specific.

The P-E fit model

One of the most well known interactional approaches is probably the Person-Environment (P-E) fit model. According to Nelson & Simmons (2003), the P-E fit model is based on the work of Robert Khan, and emphasises the stressful nature of confusing or conflicting role demands. "Fit" refers to the match between an individual's skills and abilities and the demands of the job, and is communicated through clear role expectations. This model essentially states that for each person's repertoire of skills and abilities there is an optimal level of environmental demands (O'Driscoll & Cooper, 2002) so that distress is lowest and psychological wellbeing (and perhaps eustress) is highest when there is a match between ability and demand. When there is a mismatch, i.e. demand exceeds ability or vice versa, psychological strain is increased. This idea of fit is very similar to the idea of a balance between challenge and skill discussed in Chapter 1 in relation to flow. Whereas a match between ability and demand leads to decreased distress, a balance between challenge and skill leads to increased eustress. It could well be that these two models are opposite sides of the same coin. Despite this opportunity to link the P-E fit model to positive outcomes, research has thus far tended to focus on instances of mismatch and distress.

The models outlined above adhere to a research tradition in which antecedent variables of stress reactions (be they environmental conditions or person variables) are treated as separate and static causes of behavioural and medical states, such as illness, distress, burnout and work dissatisfaction (Lazarus, 1989). Even the P-E fit model emphasises a stable relationship between the individual and their environment rather than a more realistic process in which stress changes over time or varies with specific contexts. An employee might handle one work situation very well yet experience major distress at another. Lazarus (1989) states that even when there is generally a good, stable fit between the person and their work setting, stress can still be generated in certain situations such as being evaluated or dealing with difficult co-workers. Psychological stress is also a very individual matter, and as such situations or demands which may be very distressing to one person will not necessarily provoke the same response in someone else.

A major failing of earlier approaches then, is that they fail to take into account the central role of the individual and their appraisal of an event as either stressful or not. A stressor is not a stressor unless it is perceived as such, and such perceptions vary between and within individuals across time and situations (Gardner, 2006). In fact, Lazarus (1996) claims that it is the *appraisal* of a demand and not the demand (or stressor) in itself which is the key to the eventual response. This claim is at the core of his transactional model of stress.

2.3. The transactional model

The transactional approach has become a standard paradigm in the field of psychology (Schwarzer & Steffen, 2002). It was developed by Richard Lazarus and his colleagues

and argued that strain occurs when environmental demands are judged by the individual to exceed his or her resources (Lazarus & Folkman, 1984). What sets the transactional approach apart from simpler models of stress is that it recognises the vital role of individual perception and therefore posits *appraisal* as an integral part of the stress process. According to Schwarzer and Steffen (2002), this model emphasises the relationship between the person and the environment, seeing stress as an ongoing process, initiated and maintained by the cognitive appraisal of demands and resources. The model basically consists of primary appraisal where the individual assesses the demand, secondary appraisal where a coping strategy is chosen, and tertiary appraisal where the individual evaluates the success or failure of their efforts to cope based on the outcome(s) of the entire process. This is summed up in Figure 1 below.

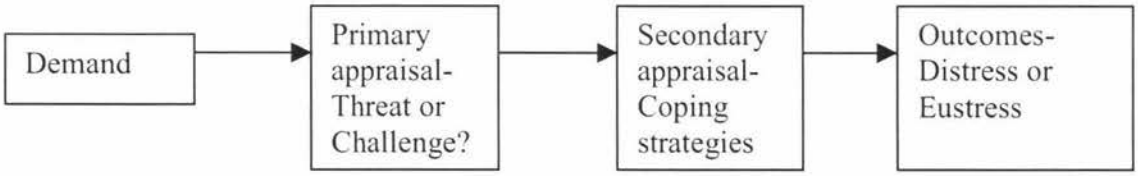

Figure 1. The transactional approach, adapted from McGowan, Gardner and Fletcher, 2006.

Primary appraisal

The initial evaluation of a demand is called primary appraisal, and it occurs when the individual considers the demands and resources available and makes a decision about whether a demand is both relevant and stressful (Lazarus, 1966). The first part of primary appraisal involves deciding, basically, whether a problem exists. According to Lazarus and Folkman (1984) any event could be classed as a stressor, and no event can

be deemed a stressor outside the individual's appraisal of that event. It is necessary for the individual to perceive a demand as relevant in order for the stress process to be initiated. This means that if the person believes that the particular demand is important in terms of their personal goals, they will then perceive a stressful situation to exist (Lazarus, 1989). On the other hand, demands which are appraised as irrelevant will not initiate the stress process and so will generally not lead to either negative or positive stress outcomes. Similarly, demands which are appraised as relevant but benign (i.e. they do not involve any risk to personal well-being) will not initiate stress (Gardner, 2006). Instances where the individual decides that a situational demand is indeed relevant to their personal goals, *and* represents the possibility of losing something important (money, relationships etc.), will result in an appraisal of the situation as stressful, thereby initiating the stress process. Once this necessary step occurs primary appraisal then involves a perception of either threat or challenge.

Threat appraisal

Threat appraisals occur when the individual perceives the situational demand as representing in some way a threat to their wellbeing (be it physical or psychological) or self-esteem (Lazarus & Folkman, 1984). A threat appraisal occurs when the situation is relevant and environmental demands are perceived as taxing or exceeding personal resources or ability to cope (Blascovich & Tomaka, 1996). This potential anticipated harm can take a variety of forms, such as the loss of a job, failure to be promoted, loss of status, or disapproval by management or one's peers (Lazarus, 1989). The threat of loss is obviously a central theme here and is quite important in this type of appraisal. Loss of resources (environmental, social, financial or psychological) is a very adverse experience and one which individuals generally aim to avoid (see the Conservation of

Resources model discussed in Chapter 3). Threat appraisals are associated with the fear of losing something or someone important to the individual, keeping in mind that at this stage of the appraisal process the individual has already decided that the outcomes of the particular demand are important to him or her. According to Skinner and Brewer (2002) threat appraisals result from the combination of a demand which carries potential danger to well-being (by threatening valued resources), and low confidence in one's ability to cope with the threatening demand.

Research has established a link between threat appraisals and negative affect (Skinner & Brewer, 2002; Tomaka, Blascovich, Kelsey & Leitten, 1995), which makes intuitive sense since an individual would not expect positive outcomes from a situation where outcomes are important yet coping resources are perceived to be deficient to meet situational demands. Threat appraisals have been shown to lead to negative outcomes such as distress because of the way these appraisals affect coping strategies, which in turn affect outcomes (McGowan et al., 2006).

Challenge appraisal

Challenge appraisals occur when resources are perceived to be high relative to demands, and represent an opportunity for mastery and personal growth (Lazarus & Folkman, 1984). Basically, the individual appraises the situation (and the risk to his or her well-being) as manageable because he or she has enough personal and environmental resources to handle the stressful demand and achieve positive outcomes. Whereas in threat appraisals the focus is on protecting from harm and loss, in challenge appraisals the focus shifts to the positive outcome possibilities (Lazarus, 1989), such as gaining success, experience, social rewards and so on. The expectation of loss is replaced with

the expectation of gain. Since a challenge appraisal indicates confidence that the demands of a stressful situation can be overcome (Skinner & Brewer, 2002), it makes sense that these appraisals will be more abundant when the demand is perceived to be within an individual's ability to cope.

While challenge appraisals may occur simultaneously with threat appraisals, they represent distinct constructs, and are related to coping and outcomes in quite different ways (McGowan et al., 2006). Several studies, such as those by Tomaka and colleagues (1997) have found that in contrast to threat appraisals, challenge appraisals are characterised by positive affect or low negative affect. Challenge appraisals have been shown to influence affective outcomes through their impact on coping (McGowan et al., 2006). In all, the research on primary appraisal leads to the following hypothesis.

Hypothesis 1: Importance of work demands will be positively associated with primary (both threat and challenge) appraisal.

Secondary appraisal

Primary appraisals are followed by secondary appraisal, where the individual decides which coping strategies to use to deal with the possible harm, threat or challenge. Lazarus (1989) defines coping as the cognitive and behavioural efforts a person makes to manage demands that tax or exceed personal resources. An individual may have a tendency towards a particular way of coping (a coping style), and there is a research tradition that approaches coping as broad personality traits or styles of relating to the world (Lazarus, 1989). However, while people may indeed possess such general coping styles, their coping response will always be related to some extent to the demands of the

particular stressful situation (Lazarus, 1989) and therefore to the *appraisal* of those demands. According to Cassidy (1999), the effectiveness of a coping strategy depends on the situation, the person, and the outcome in consideration.

There are many ways in which an individual may cope with a stressful situation. Carver (1997) lists fourteen different coping options, including planning, humour, denial, active coping and seeking social support, for example. Folkman and Moskowitz (2004) state that there seems to be a general convergence towards a four-way categorisation of coping. They divide coping strategies into problem focused, emotion focused, meaning focused (sense-making) coping and a social factor (such as seeking support). Bowman and Stern (1995) simplifies secondary appraisal even more, stating that coping strategies can be broadly classed into two categories: emotion focused and task focused coping. These two types of coping are the most widely investigated since most researchers class coping strategies into these two categories (Terry & Jimmieson, 2003). Given that the literature emphasises task focused coping as particularly relevant to positive outcomes and emotion focused coping as more relevant to negative outcomes (for example McGowan et al., 2006; Bowman & Stern, 1995), the present research will also class coping into emotion focused and task focused coping.

Emotion focused coping

Emotion focused coping consists of efforts to control the emotional distress caused by harm or threat (Lazarus, 1989). Generally, when individuals utilise this type of coping they are avoiding or regulating their stressful emotions by avoiding direct confrontation with the demand or stressor (Bowman & Stern, 1995). Some researchers go so far as to call this type of coping "a failure to face the problem" (Terry & Jimmieson, 2003, p.

94). The avoidance of thoughts about the source of stress is one basic strategy, but there are a variety of coping techniques under this heading. Emotion focused coping may, for example, consist of changing the meaning of what is happening (or will happen) through denial, positive thinking, and distancing (Lazarus, 1989). This type of coping does not in itself change the objective terms of the person environment relationship (i.e. it does not address the stressor), only how these terms are interpreted (Lazarus, 1989).

The type of coping strategy people use depends on how they appraise the demand (McGowan et al., 2006). It makes sense that people will "fail to face the problem" when they appraise the particular problem as beyond their ability to handle. When an individual perceives a demand to outweigh their ability, he or she will likely decide that there is little point in addressing the problem directly, and that the best they can do is to try and manage the inevitable distress. Tomaka and his colleagues (1993) state that individuals who feel threatened by the demand may be less task focused in order to avoid exacerbating the situation. Research supports this notion, and there is plenty of evidence linking threat appraisals to emotion focused coping strategies (see for example McCrae, 1984; McGowan et al. 2006; Terry & Jimmieson, 2003). This leads to the following hypothesis.

Hypothesis 2: Threat appraisals will be positively associated with emotion focused coping.

Task focused coping

Task focused coping efforts are aimed at altering the actual source of stress. Lazarus and Folkman (1984) state that task focused strategies are similar to strategies used for

problem solving, and as such they are often directed at defining the problem, coming up with alternative solutions, choosing a course of action and implementing it. Planning and taking steps to directly address the problem are therefore integral parts of this type of coping.

Individuals are much more likely to use task focused strategies when they feel that there is the possibility of a good outcome in directly facing the problem. In other words, when an individual feels that they would be able to cope with the demands of the situation, they are more likely to try and do so in a direct manner. The perception that one has the ability to successfully manage a stressful situation echoes the P-E fit idea of a match between demand and ability, or the flow concept of a balance between challenge and skill. Such a balance is likely to result in task-focused coping, largely because it creates optimum conditions for challenge appraisals to occur. Appraising a situation as manageable, i.e. viewing it as a challenge rather than a threat has been associated with task focused coping strategies (McCrae, 1984; McGowan et al. 2006).

Hypothesis 3: Challenge appraisals will be positively associated with task focused coping.

2.4. Outcomes of the stress process

Distress

Distress is defined as a negative psychological response to a stressor, as indicated by the presence of negative psychological states (McGowan et al., 2006). Distress is by far the most intensely researched outcome of the stress process. In fact, as has been discussed in Chapter 1, distress is often considered synonymous with stress. Distress has also been

lined to a myriad of negative outcomes for people, including poor psychological and physical health (Barling, Kelloway, & Frone 2005). This in turn has serious implications for organisations, as was discussed in Chapter 1.

Studies have shown that appraisal affects physiological and psychological responses to stressors, and the literature on causes of distress has often linked this particular outcome with threat appraisals (see for example Tomaka et al., 1993). According to Skinner and Brewer (2002) there is a well established relationship between threat appraisal and negative emotions such as anxiety, which makes sense since threat appraisals suggest a potential risk to wellbeing as well as low confidence in one's ability to cope. As discussed above, threat appraisals have also been relatively consistently linked with emotion focused coping, and it is through appraisal's influence on coping that it affects outcomes (refer to Figure 1).

Coping is a key mediating variable in the stress-adjustment relationship (Terry & Jimmieson, 2003). According to Terry and Jimmieson research provides evidence that a reliance on emotion focused coping strategies such as denial has a negative effect on psychological wellbeing. Findings by Bowman and Stern (1995) also suggested that greater use of coping strategies which avoided dealing directly with the issue was strongly related to negative affect in the workplace. Emotion focused strategies often fail to address the demand, and in not facing the problem the probability of successfully managing it becomes minimal.

In general then, threat appraisals lead to emotion focused coping. Emotion focused in turn has been repeatedly shown to be associated with poor psychological outcomes such

as distress (see for example McGowan et al., 2006). Therefore, through its influence on coping strategy, threat appraisals indirectly affect distress.

Hypothesis 4: Emotion focused coping will mediate the relationship between threat appraisals and distress.

Eustress

Eustress, the positive psychological response to a stressor, has not been nearly as well researched as distress. However, it has been positively associated with psychological wellbeing, personal growth, flexibility, adaptability and performance (McGowan et al., 2006). Furthermore, according to Skinner and Brewer (2002) the majority of research findings in this arena suggest that challenge appraisals are likely to lead to positive emotion (for example Lazarus & Folkman 1984).

Challenge appraisals are associated with lower levels of subjective stress (Skinner & Brewer, 2002) because they indicate confidence that the demands of a stressful situation can be successfully dealt with. Because this confidence affects the type of coping strategy an individual will subsequently employ, challenge appraisals also increase the likelihood of eustress. As with threat appraisal and distress, coping again acts as a powerful mediator (refer to Figure 1).

As discussed above, challenge appraisals generally lead to task focused coping. Task focused coping in turn has been associated with positive outcomes for the individual. Keeping in mind that successful management of the stress process hinges on using appropriate (in other words effective) coping strategies, it becomes clear why strategies

which directly address the problem have a higher probability of resulting in positive outcomes. Unless a demand is completely beyond an individual's control, task focused strategies are generally considered to be more effective than emotion focused strategies (Bowman & Stern, 1995).

Since positive emotion during and after the stress process usually occur as a result of effective coping (McGowan et al., 2002) a positive association between task focused coping and eustress is not surprising, and task focused coping has indeed been shown to be associated with eustress (Bowman & Stern, 1995; McGowan et al., 2006). This leads to the following hypothesis.

Hypothesis 5: Task focused coping will mediate the relationship between challenge appraisals and eustress.

Organisational effects – Turnover intention

The psychological wellbeing of employees should be important to organisations not only because of their duty of care towards their workers, but also because of the impact happiness or unhappiness can have on the "bottom line". An important area in which eustress or distress may affect organisational outcomes is that of withdrawal behaviours. Withdrawal behaviours generally refer to costly employee behaviours such as absenteeism, the submission of stress-related compensation claims, and turnover (Cotton & Hart, 2003).

It is commonly assumed that withdrawal behaviours such as turnover are primarily influenced by negative work experiences and distress (Cotton & Hart, 2003). Burnout,

or chronic distress, has been associated with various forms of withdrawal behaviour, including intention to leave the job and actual turnover (Maslach, Schaufeli & Leiter, 2001). Moore (2001) lists absenteeism, turnover, decreased performance, increased sick leave and increased accidents all as manifestations of distress in the workplace. However, Cotton & Hart (2003) challenges this assumption that distress is the primary influence of withdrawal behaviours with research suggesting that positive affect may be more important than negative affect in determining some types of withdrawal behaviours.

Cotton and Hart (2003) investigated the determinants of employee withdrawal behaviour intentions, and concluded that it was the absence of positive affect (eustress), rather than the presence of distress, that influenced withdrawal behavioural intentions such as turnover. Contrary to the dominant approach, eustress may therefore be a more important factor in employee withdrawal than distress. This ties in with previous research which has shown that positive emotions may in fact fuel psychological resilience and even undo lingering negative emotions (Fredrickson, 2006) providing a plausible explanation for why eustress may affect withdrawal behavioural intentions more than distress. This leads to the following hypotheses.

Hypothesis 6: Distress will be positively associated with turnover intentions.

Hypothesis 7: Eustress will be negatively associated with turnover intentions.

Figure 2 provides a summary of the hypotheses outlined in this chapter.

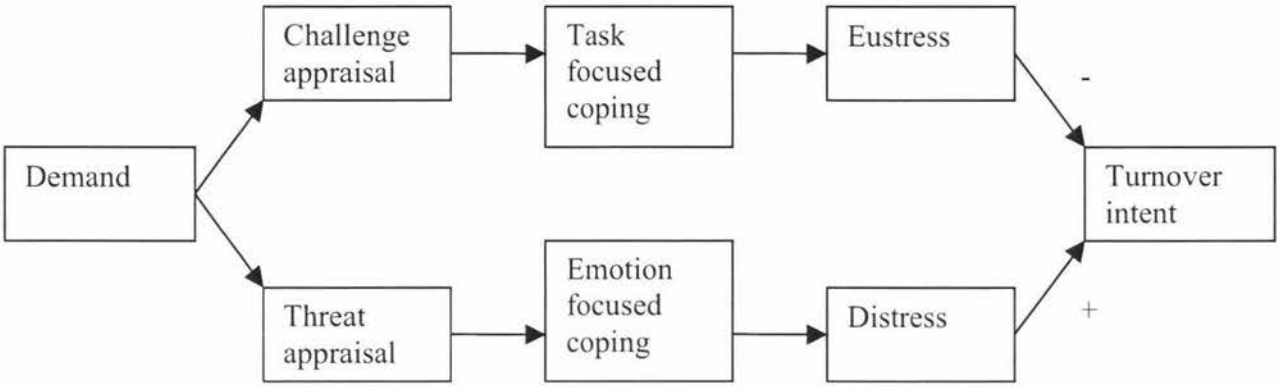

Figure 2. Proposed model of the eustress and distress pathways.

CHAPTER 3: THE ORGANISATIONAL ENVIRONMENT

Considering the important role of positive emotion in individual growth, psychological well-being and resilience (see Chapter 1) an important question for organisations therefore becomes how to encourage positive emotional outcomes from work environments which inevitably contain stressful situations. Eustress, as the positive aspect of the stress process, is an issue which may be just as important to wellbeing as distress, yet with far fewer research articles providing advice on how to encourage its occurrence.

The literature supports a viewpoint which suggests that appraisal is the key to the stress process (for example Lazarus, 1984). In fact, some studies indicate that only the manipulation of primary appraisal has a predictable effect on stress outcomes (Tomaka, Blascovich, Kelsey & Leitten, 1993). Looking at Figure 2, it becomes clear that it is at the point of appraisal where the individual reaches a crossroads with one pathway leading to distress and the other to eustress.

The preceding chapter highlighted the importance of challenge appraisals in the generation of eustress. Once an individual has appraised a situation as a challenge, it becomes more likely that he or she will choose task focused coping strategies which tend to deal directly with the stressor. These strategies in turn generally lead to eustress. Since eustress hinges on challenge appraisals, it therefore makes sense that in order to encourage eustress organisations need to facilitate challenge appraisals. Challenge appraisals represent an opportunity for mastery and personal growth, and occur when *resources are perceived to be high relative to demands* (Lazarus & Folkman, 1984).

The demands of a job are often integral to the work itself, and while "stress" may be minimised it is impossible to eliminate it completely. A sensible approach to creating challenging as opposed to threatening situations would therefore be to focus on the creation of resource-rich environments. It is therefore important to consider how resources may affect the stress process, as well as which specific resources might make up a "resource-rich" environment.

3.1. Resources and primary appraisal

Resources, both personal and environmental, are part of the appraisal process which affect stress outcomes, and therefore play an important role in the transactional model. Recognising resources as a fundamental aspect of almost any approach to stress, Hobfoll (1989) suggested the Conservation of Resources model as a way of conceptualising stress. This model states that people essentially strive to build, retain and protect resources, and that distress occurs when these resources are threatened or lost. "Resources" can be objects, conditions such as seniority, personal characteristics such as skills or personality traits, or energies such as time, money and knowledge (Hobfoll, 1989).

Hobfoll (1989) explains that people will use their resources to cope with stressful events in order to avoid a greater loss in net resources, or to gain resources in the long run. Dealing with a difficult work assignment might, for example, require the individual to use up or risk valued resources such as self-esteem, time and energy in order to cope and avoid a bigger loss such as status at work or even the job itself. At the same time, the individual may be using these resources in anticipation of an overall gain in the long term, such as getting a promotion or pay rise, or a gain in resources such as knowledge

and skill. In this case (when anticipating a net gain in resources) a challenge appraisal would be operating, keeping in mind that challenge appraisals represent a focus on positive outcome possibilities (Lazarus, 1989). Perceptions of high resources should lead to challenge appraisals because more resources will increase the likelihood that perceived resources will match or outweigh perceived demands and that individuals will subsequently feel able to cope with demands. Resources will therefore also be associated with increased levels of eustress. If, however, the individual considers the demands of the work assignment to outweigh the resources available to them to cope (a likely occurrence when resources are perceived to be low), distress will result since the individual will then expect a net loss in resources, or in other words, a threat appraisal (and by association, distress).

Hypothesis 8: High resource work environments will be positively associated with challenge appraisals and eustress.

Hypothesis 9: Low resource work environments will be positively associated with threat appraisals and distress.

There are two different possible ways in which resources may influence primary appraisal and thereby affect outcomes.

Resources as a moderator

It is at this point important to note that individuals tend to have cognitive appraisal styles. Cognitive appraisal styles refer to individual dispositions to appraise relationships with the environment consistently in one way or another (Skinner &

Brewer, 2002). In other words, people do have tendencies to make either threat or challenge appraisals when encountering stressful situations, perhaps because of enduring individual differences. However, while people may have a predilection toward certain ways of appraising, their reaction to a demand will always be influenced to some extent by the context of the particular situation (Lazarus, 1989). Although appraisal is a personal style, it does not mean that an individual will *always* appraise a situation in the same way; cognitive appraisal styles refer to dispositions or tendencies towards particular appraisals, not certainties.

Environmental influences will therefore still affect appraisal to the extent that they either support or undermine a person's tendency towards a specific appraisal. So then where an individual may usually appraise stressful demands as challenges, he or she would be even more likely to do so when the demand occurs in an environment that provides resources that could aid in coping. Likewise, individuals who usually appraise demands as threatening would be even more likely to do so in resource-poor environments. In this way resources may moderate the relationship between demand and appraisal (refer to Figure 3).

Hypothesis 10: Resources will have a moderating effect on the relationship between demand and appraisal.

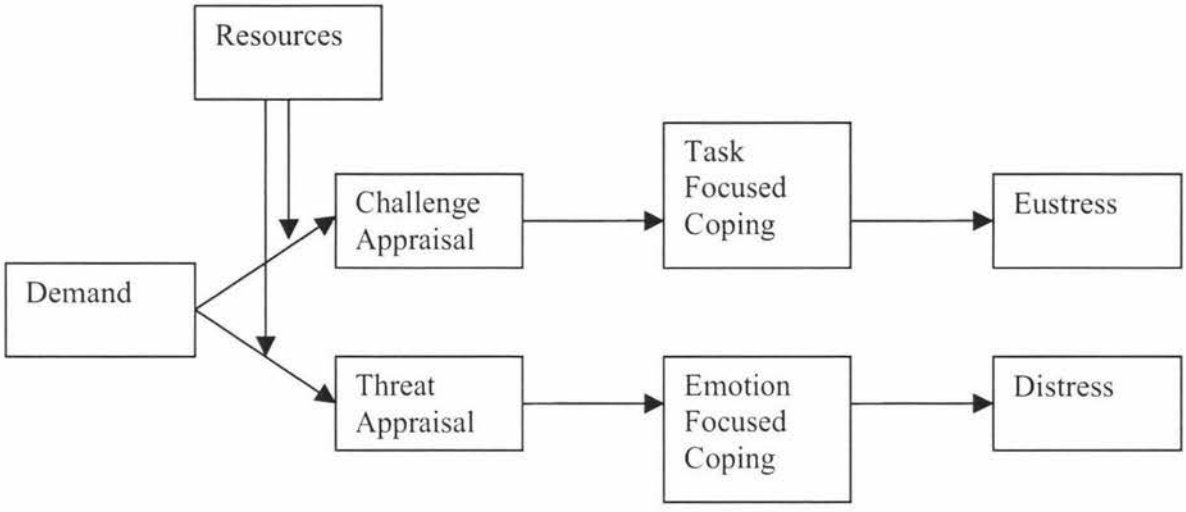

Figure 3. The proposed moderating effect of environmental resources.

Resources as a mediator

Primary appraisal consists of an evaluation of both the demands and the available resources an individual has at their disposal to deal with those demands (Lazarus & Folkman, 1984). At first this might seem to suggest that demands and resources are two separate variables which should have individual effects on appraisal (Figure 4).

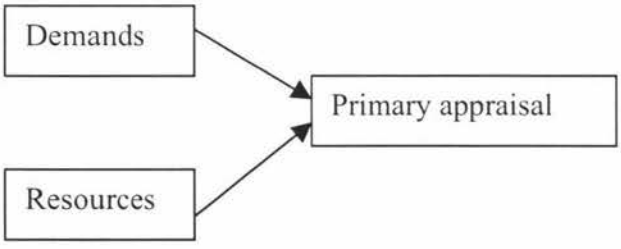

Figure 4. Demands and resources as separate influences on primary appraisal.

However, this is unlikely to be the case. First it must be kept in mind that demands and resources are not objective and separate aspects of an individual's organisational environment. Both these variables are measured on the basis of *perception*. Once an

individual has perceived a demand, he or she will then proceed to evaluate the resources perceived to be available for coping with that demand. Further, an evaluation of resources must be done in the context of the particular demand; neither demands nor resources will be evaluated without regard for the other, and neither can trigger a primary appraisal by themselves. The perception of demands and resources are therefore linked together in the stress process. In essence, the perception of a demand should always trigger an evaluation of perceived resources which will then result in either a threat or challenge appraisal.

Therefore, a possible way in which resources may affect primary appraisal is by acting as a mediating variable. According to Baron and Kenny (1986) mediators explain how external physical events take on internal psychological significance. In this case, resources would mediate the relationship between demands and appraisal, since the perception of resources (in the context of a particular demand) will determine the type of primary appraisal (either threat or challenge) an individual will make. This leads to the following hypothesis, which is illustrated in Figure 5.

Hypothesis 11: Resources will mediate the relationship between demands and primary appraisal.

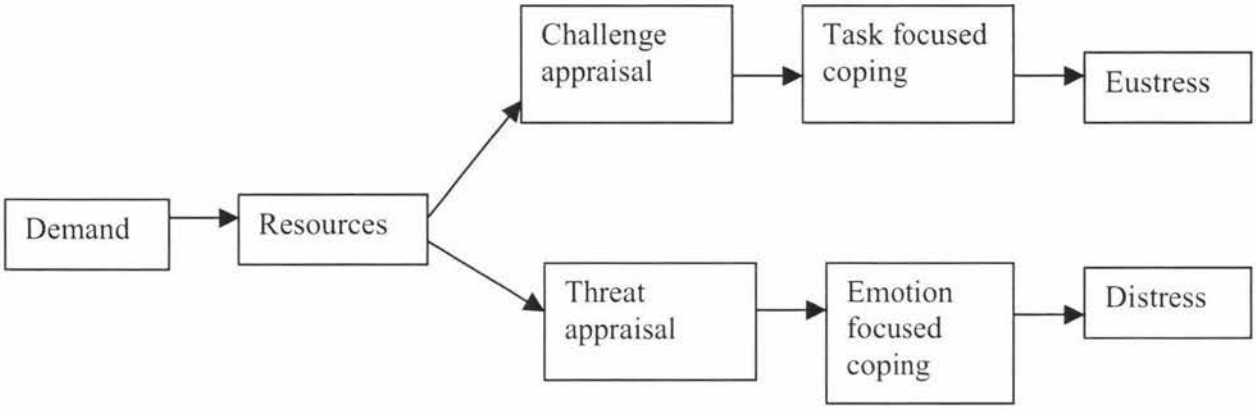

Figure 5. The proposed mediating effect of resources.

3.2. Resources and coping

Resources may be important not only in their effect on the demand-appraisal relationship but also because of their effect on secondary appraisal. Secondary appraisal involves a decision about which specific coping strategies to employ in order to handle the demand. Holahan and Moos (1987) proposed a resources model of coping in which coping acts as one mechanism through which resources affect stress outcomes. Lazarus and Folkman (1984) who defined resources as what an individual draws on in order to cope also argued that resources precede and influence coping. Naturally, in deciding on coping strategies the individual will first have to evaluate what strategies are available to him or her in any particular situation. It is at this point that environmental resources can act as coping resources.

According to Terry and Jimmieson (2003), coping resources are relatively stable characteristics of people's dispositions and environments. In essence, coping resources refer to what is available to individuals when they develop their coping strategies. For

example, social networks at work can be a potential source of support during times of stress, or supervisors can be a source of instrumental support in dealing with work problems (Terry & Jimmieson, 2003). These two resources (social relationships and supervisors) can therefore directly impact an employee's decision about which coping strategy to use, and the more resources available to an employee, the higher the probability that they will have access to a resource which will enable an appropriate (and therefore effective) coping strategy. High levels of resources will therefore lead to eustress through their effect on coping. Specifically, more resources will enable employees to choose more effective coping strategies, so it is likely that resources will have a positive relationship with task focused coping strategies, since these are generally more adaptive (Bowman & Stern, 1995). Accordingly, Holahan and Moos (1987) conducted a study showing that people with higher levels of environmental resources were more likely to rely on task focused coping.

Hypothesis 11: Resources will be positively associated with task focused coping.

On the other hand, Hobfoll's (1989) conservation of resources model predicts that individuals who lack the options made possible by having access to many resources will attempt coping strategies that have a high cost and poor chance of success. In other words, those who lack resources will attempt to employ what resources they do have, whether or not the resulting coping strategy is appropriate or effective. For example, if an employee does not have access to instrumental support in order to solve a work problem, he or she may perceive their only coping resource to be denial or avoidance of the problem. The employee would thus resort to handling the negative emotions associated with stress (emotion focused coping) instead of addressing the demand, since

they do not perceive themselves to have the resources to directly deal with that demand. So when environmental resources are low, individuals may be forced into using indirect means of handling the situation such as emotion focused coping, an often ineffective yet readily available resource. This was reflected in Holahan and Moos' (1987) study showing that people with more resources were less likely to employ emotion focused coping. The proposed effect of resources on coping is illustrated in Figure 6.

Hypothesis 12: Resources will be negatively associated with emotion focused coping.

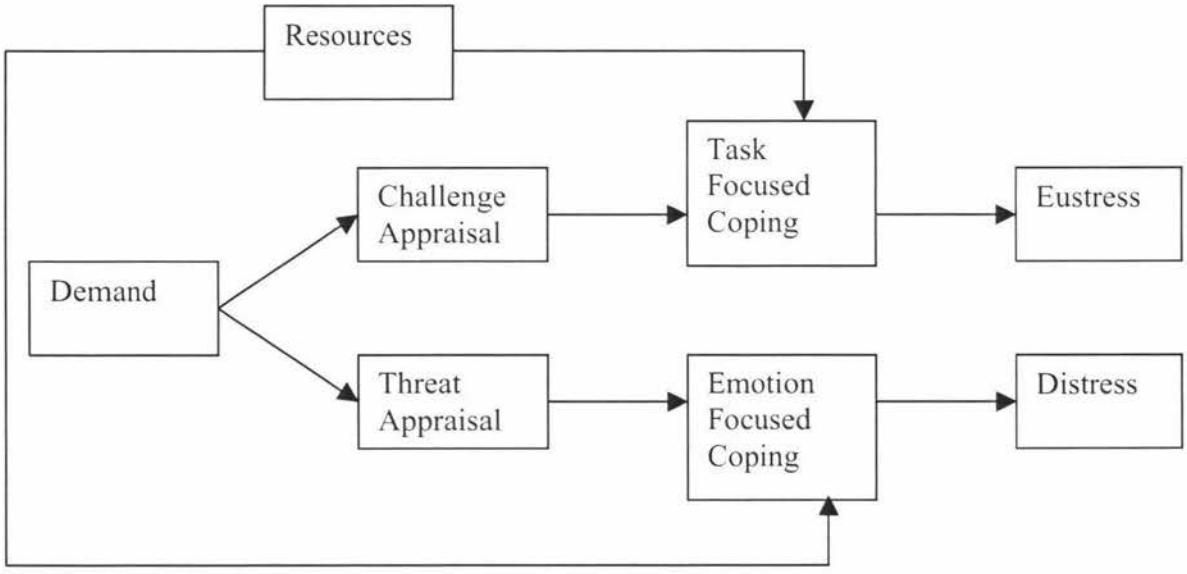

Figure 6. The proposed effects of resources on coping.

3.3. Components of a resource-rich environment

Many environmental resources have been identified in the stress literature. The present research selected four specific resources as relevant on the basis of their established links with positive and negative stress outcomes. These resource variables were then

used to construct a global resources variable to act as an indicator of a resource-rich environment. These variables were control, role clarity, peer relations and leader relations.

Control

Control is an important concept in the stress arena, and is mentioned in many models of stress. An early example is Warr's (1987) model discussed in Chapter 2, where "opportunity for control" is one of the environmental features he states affects distress (Jones & Bright, 2001). This environmental feature can clearly be a resource that an individual may use to handle stressful situations and influence response outcomes, which explains why many researchers have found that increased control leads to decreased strain or distress (for example Kaldenberg & Becker, 1992; Conner & Douglas, 2005).

The demand-control model also illustrates the role of control, with Karasek's (1990) research again demonstrating that individuals with more control over their work environment exhibit fewer signs of distress. This may be because with increased discretion the individual gains access to more resources (which may then outweigh demands) or coping options (such as the ability to delegate, to set one's own timeline etc.) for the individual to draw on in order to successfully meet demands. A lack of control is one of the few things researchers agree is universally aversive (Cassidy, 1999), and therefore it is likely to be an important aspect of a resource-rich environment.

Role clarity

Role ambiguity occurs when there is a lack of clarity concerning expectations about one's role at work, and has consistently been identified as a source of distress (Conner & Douglas, 2005; Lang, Thomas, Bliese & Adler, 2007). According to Beehr and Glazer (2005), role ambiguity is a lack of specificity and predictability concerning an employee's job functions and responsibilities, or as a situation in which there is insufficient, restricted, or misleading information pertaining to an employee's work role.

Role ambiguity interferes with the development of appropriate coping strategies (Terry & Jimmieson, 2003); probably because it is difficult to match strategy with demand when one is unsure of what exactly is expected in terms of dealing with that demand. Previous research has found that role ambiguity exacerbated the effect of work stresses on mood (Lang et al., 2007). Role ambiguity therefore has a detrimental effect on stress outcomes for individuals, and this makes sense since role ambiguity in essence represents a lack of information, a powerful resource. When one considers the central role of information to role ambiguity or its opposite, clarity, it becomes clear that role clarity can represent a resource to individuals. Information about expectations surrounding a demand is a resource in that it will help individuals choose coping strategies.

In the present research feedback regarding work performance was considered an aspect of role clarity, since such feedback provides information regarding role expectations. Research findings support the idea that feedback which clarifies role expectations results in positive outcomes while ambiguity reinforces negative outcomes (for example

Rosen, Levy & Hall, 2006). Furthermore, previous research also found that the phenomenon of flow is dependent on clear and immediate feedback (Csikszentmihalyi, Abuhamdeh & Nakamura, 2005), thereby supporting the idea that access to information regarding performance may be important in facilitating eustress. Role clarity is therefore an important aspect of a resource-rich environment.

Peer relations

Warr's (1987) vitamin model of stress lists opportunity for interpersonal contact as an environmental feature which would lead to a decrease in distress. Most people would intuitively agree that good relationships with one's co-workers make for a more enjoyable and less stressful work environment. Good peer relations are especially important as work groups are very prominent features of the work environment. The people in an individual's work group become an important part of his or her social and work environment, and as such can have a significant impact on the individual's feelings about the workplace (Cammann, Fichman, Jenkins & Klesh, 1983).

Healthy relationships with co-workers can be considered an important resource when it comes to coping with stressful situations. Co-workers can be an invaluable source of information regarding particular demands (thereby aiding the individual in selecting appropriate coping strategies), or regarding role expectations (thus improving role clarity). According to Cammann et al. (1983) open communication processes in groups, in addition to being valued outcomes in and of themselves, clarify roles and outcomes and are associated with higher levels of satisfaction and involvement and lower levels of turnover.

Good peer relations within the work group can also serve as a source of social support. Research has shown that social support can help shield workers from the negative effects of job stress and highlighted the importance of good overall social support networks (Coovert, Thompson, & Craiger, 2005). Many researchers have argued that social support acts as a buffer against stress (Cassidy 1999) although the impact of social support on the stress process may be more complicated than this.

According to Hobfoll (1989), research indicates that social support is beneficial when it provides for situational needs, and benign or even harmful when it does not. This is reflected in Dormann and Zapf's (1999) statement that there needs to be a close match between demands and support for a moderating effect to occur on negative outcomes. Furthermore, some authors have suggested that in certain circumstances there may be threshold effects of social support, so that social support will have a stronger effect on the stress process in cases where social support is perceived to be low (for example Varvel et al., 2007). This suggests that the apparent strong association between support and positive outcomes may be accounted for by individuals in the lower end of the scale of perceiving social support. However, an extensive review of outcome studies by Hogan, Linden & Najarian (2002) examining the effects of peer support interventions concluded that social support interventions are generally effective.

So while social support may not always be beneficial to a particular individual, good peer relations in general should still, for most people, act as a resource in the stress process since it represents the availability of information and social support should it be needed. Good peer relations will therefore make an important contribution to a resource-rich environment.

Leader relations

A good relationship with one's leader is a resource in much the same way as good relationships with peers. Employees may gain access to information about role expectations, instrumental help with work problems, and social support through their supervisors. According to Varvel et al., (2007) supervisor support uniquely predicts a significant portion of the variance in perceived distress which is not accounted for by peer support. Supervisors may be even more effective than peers at providing support to deal with demands since they generally have more control over the work environment, and therefore are in a key position to provide both relevant instrumental assistance and emotional support (Terry & Jimmieson, 2003).

The literature supports the view that supervisor support is an important factor in the successful navigation of a stressful encounter, and that the availability of tangible help from supervisors will decrease the occurrence of distress (for example Coovert, Thompson & Craiger, 2005; Varvel et al., 2007). Studies have shown that support from one's leaders buffers the negative effects of stressful job demands on outcomes such as depression and dissatisfaction, and that good leader support leads to positive outcomes such as job satisfaction and lower turnover (Offerman & Hellmann, 1996). Along with control, role clarity, and peer relations, leader relations is therefore part of an important repertoire of resources which will create an environment conducive to positive stress outcomes.

CHAPTER 4: METHOD

The present study examined the impact of the organisational environment on the stress process using a transactional model of stress. The aim in doing so was to identify those aspects of a person's working life that helped them deal with stress in a way which lead to positive outcomes. Demand, appraisal, coping and positive and negative outcomes, as well as a climate resource variable were assessed with employees of a major New Zealand company in order to investigate the proposed model of stress and the effect of the working environment.

4.1. Participants and procedure

Following a peer review process it was decided that the present study did not pose any risk of harm to participants and a low risk notification for Ethics approval was issued. A large agricultural research company agreed to let the researcher distribute an online survey via the company's internal email. Employees were forwarded an email informing them about the study and inviting them to take part within a three week time limit. A link at the end of the email took participants to the online survey, which was constructed and run using the website www.surveymonkey.com. The questionnaire itself contained 114 items and took around 15 to 20 minutes to complete (see Appendix A). From the employee population of 300, 120 surveys were returned, giving a response rate of 40%.

Of the 120 people who returned the survey only 104 completed the demographic information section. Of these 104 respondents for this section, 51 were male and 53 were female, with ages ranging from at least 18 to at most 69 (see Table 1).

Table 1.

Summary of Demographic Information of Participants (N=104)

	Number of Respondents	Percentage of Respondents
Gender		
Male	51	49%
Female	53	51%
Age		
18-29	35	33.7%
30-39	23	22.1%
40-49	26	25%
50-59	13	12.5%
60-69	7	6.7%
Position		
Staff	82	78.8%
Manager	22	21.2%
Executive	0	N/A

4.2. Measures

Demands

Demands were measured using three items. These items were: "The demands I face at work are important to me", "I feel that I can cope with the demands at work" and "I feel that I have control over the demands I face at work". However, Cronbach's alpha for this three item scale showed insufficient reliability at 0.47, and no combination of any

two items had an alpha over 0.5. Therefore the "demand importance" item was chosen as the measure of demands, based on theory which states that demands must be perceived as important to the individual in order to be considered stressful (Lazarus, 1989). Responses were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Resources

The global resources variable was measured with a scale comprising the control, role clarity, peer relations and leader relations measures outlined below. Responses for these measures were collected using a 5-poing Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha for this composite, 21 item measure was acceptable ($\alpha = 0.92$).

Control

Perceptions of control as an environmental resource were measured by the single item "I feel that I have control over the demands I face at work".

Role clarity

Two job factors were measured using subscales from the Michigan Organizational Assessment Questionnaire (MOAQ) developed by Cammann, Fichman, Jenkins, and Klesh (1983). These were task feedback and role clarity. Task feedback was measured with a two item subscale ($\alpha = 0.50$) with statements such as "As I do my job I can tell how well I'm performing". Role clarity was measured with a three item subscale ($\alpha = 0.63$) which had statements such as "Most of the time I know exactly what I have to do on my job". These two subscales were not reliable enough for use by themselves, but

when combined into a five item scale Cronbach's alpha was good at 0.73. This scale, labelled "role clarity" still made conceptual sense since feedback can be regarded as an aspect of role clarity.

Peer relations

The quality of peer relations at work was measured using the open group process subscale from the MOAQ (1983). This subscale consisted of four items ($\alpha = 0.79$) such as "We tell each other the way we are feeling".

Leader relations

Leader relations were measured with a combination of two subscales from the MOAQ (1983): work facilitation - problem solving, and work facilitation - subordinate relations. The resulting eleven item scale had very good internal consistency ($\alpha = 0.93$), and consisted of statements such as "[your supervisors and leaders] Keeps informed about the way subordinates think and feel about things".

Primary appraisal

Trait primary appraisal was measured using the eighteen item Cognitive Appraisal Scale (Skinner & Brewer, 2002). This measure consists of two subscales: Threat appraisal and Challenge appraisal. Threat appraisals were measured with ten items which asked participants to what extent they agreed with statements such as "I worry that I will say or do the wrong things" and "I lack self-confidence". Challenge appraisals were measured with eight items such as "I believe that most stressful situations contain the potential for positive benefits" and "I tend to focus on the positive aspects of any

situation". Responses were measured on a 5-point Likert scale with 1 being "strongly disagree" and 5 being "strongly agree".

The internal consistency of the Threat appraisal subscale was very good, with an alpha of 0.90. The Challenge appraisal subscale had an alpha of 0.61, which could be brought up to $\alpha = 0.69$ if one of the items were deleted. This is just below the minimum ideal Cronbach's alpha value of 0.7 according to Pallant (2007). However, Cronbach's alpha is relatively sensitive to the number of items in a scale. Pallant (2007) states that with scales that have fewer than ten items it is quite common to find low alphas. Given that the Challenge appraisal scale was a short one with only seven items (since one was deleted to increase internal consistency), an alpha this close to 0.7 was deemed acceptable.

Coping

Carver's (1997) Brief COPE was used to measure coping, with responses collected on a 5-point Likert scale ranging from 1 (never) to 5 (extremely often). This 28 item measure had 14 subscales, which measured a variety of coping strategies. In order to reduce subscales into a more manageable number, a factor analysis was undertaken. Missing data was dealt with using pair-wise deletion in order to maintain a larger sample size. A principle components analysis with varimax rotation extracted eight underlying factors with eigenvalues greater than 1, which together explained 67.84% of the variance in the sample. After examining the scree plot, the first three factors were selected for further use in the data analysis (see Appendix B).

The first factor, labelled "Task focused coping" comprised the subscales of planning, active coping, and reframing. Items in this factor included, for example, "I try to come up with a strategy about what to do", "I look for something good in what's happening" and "I concentrate my efforts on doing something about the situation I'm in". Cronbach's alpha for the resulting six item task focused coping scale was 0.82.

The second factor was labelled "Support coping" and comprised the subscales of using emotional support, using instrumental support, and one item from the self-blame subscale. Alpha for this scale was 0.77. However, it was decided that this scale would make more sense theoretically without the self-blame item, and the decision to drop this item from the scale increased its internal consistency ($\alpha = 0.82$). The scale comprised four items.

The third factor consisted of the denial, behavioural disengagement and venting subscales, and was labelled "Emotion focused coping". Cronbach's alpha for this six item scale was 0.75.

Distress

Affect was measured using the Job-related Affective Well-Being Scale (JAWS) from Van Katwyk, Spector and Kelloway (2000). This twenty item measure asked respondents to indicate how often their job made them feel either positive or negative affect, for example "My job made me feel happy" or "My job made me feel frustrated". A 5-point Likert scale was used to measure responses, ranging from 1 (never) to 5 (extremely often). The present research used the ten item negative affect subscale ($\alpha = 0.84$), as an indicator of distress. This is consistent with previous research which used

negative affect as an indicator of distress (e.g. Cotton & Hart, 2003). Unlike the eustress scale (see below) both high and low intensity items were used in order to reflect research which shows that low intensity negative affective states such as boredom can also indicate distress (for example Parasuraman & Purohit, 2000).

Eustress

The present research conceptualised eustress as consisting of the inter-related constructs of positive affect (also called morale), engagement and flow. Also, high intensity positive affect was theorised to be more relevant to the stress process than a broader measure of positive affect (refer to Chapter 1 for a discussion on the eustress construct). In line with this, high intensity positive affect was measured with five of the ten JAWS positive affect items. These items included statements such as "My job has made me feel energetic" and "My job has made me feel excited". These high intensity items had a Cronbach's alpha of 0.91, slightly higher than the whole positive affect scale ($\alpha = 0.90$).

Engagement was measured with the seventeen item Work and Well-Being Survey (Schaufeli, Bakker & Salanova, 2006). The Work and Well-Being Survey consists of three subscales labelled vigour ($\alpha = 0.77$), dedication ($\alpha = 0.87$) and absorption ($\alpha = 0.84$), and includes items such as "At my job, I feel strong and vigorous", "I am proud of the work that I do" and "Time flies when I am working". Responses to this measure were collected on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). As explained in Chapter 1, the present research regards absorption as defined by Schaufeli and his colleagues to be synonymous with the flow construct, and in this way the Work and Well-Being Survey also served as a measure of flow.

The eustress scale used in the present research was therefore created by using a combination of the high intensity positive affect items from the JAWS and the complete Work and Well-Being Survey. The subsequent eustress measure showed very good internal consistency with a Cronbach's alpha of 0.93, in line with the idea discussed in Chapter 1 that the positive outcome constructs used by stress researchers are highly interrelated.

Turnover intentions

Intention to leave the organisation was measured with a three item measure (Meyer, Allen & Smith, 1993). These items were: "How frequently do you think about leaving your current employer", "How likely is it that you would search for a job in a different organisation?" and "How likely is it that you will leave your employer in the next year?" Responses for the first item were measured on a 5-point Likert scale ranging from 1 (never) to 5 (extremely often). Responses for the second and third items were measured on a 5-point Likert scale ranging from 1 (very unlikely) to 5 (very likely). This scale had a Cronbach's alpha of 0.88.

4.3. Data analysis

Raw data was downloaded from the Surveymonkey website in Microsoft Excel format, which was then transferred into an SPSS (version 14) file with no identifying information being recorded. Missing data was accommodated by using pair-wise deletion in order to retain as large a sample as possible.

Mediation

Testing for mediating relationships was done with multiple regression using Baron and Kenny's (1986) four steps for testing for mediation. Figure 7 illustrates the first three correlations that must be tested and established as significant.

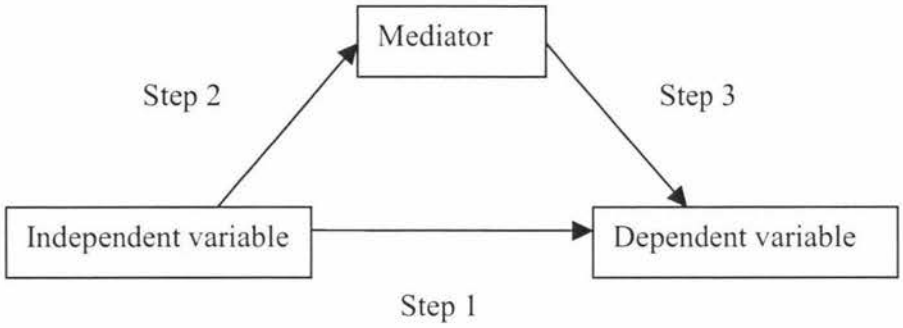

Figure 7. The first three steps of testing for mediation, adapted from Baron & Kenny, 1986.

If the first three regressions are significant, step four of establishing whether mediation is occurring can be undertaken. This step consists of testing the effect of both the independent variable and the mediator together on the dependent variable. If the effect of the independent variable becomes zero or statistically insignificant at step four, full mediation can be said to have occurred.

Unlike the moderation analysis described below, no variables were centred to control for potential multicollinearity in testing for mediation. According to Kenny (2008) multicollinearity is to be expected in a mediation analysis and it cannot be avoided.

Moderation

The procedure described by Baron and Kenny (1986) was used with a stepwise multiple regression model to investigate moderating relationships. Both the independent variable and the moderator were centred by subtracting the sample mean from individual scores so as to control for potential multicollinearity (Clarke & Singh, 2005). The interaction variable was obtained by multiplying these two centred variables together. Figure 8 illustrates the moderating model. According to Baron and Kenny (1986) the moderator hypothesis is supported if the interaction regression (step 3) is significant. It is also desirable for the moderator to be uncorrelated with both the independent and dependent variable.

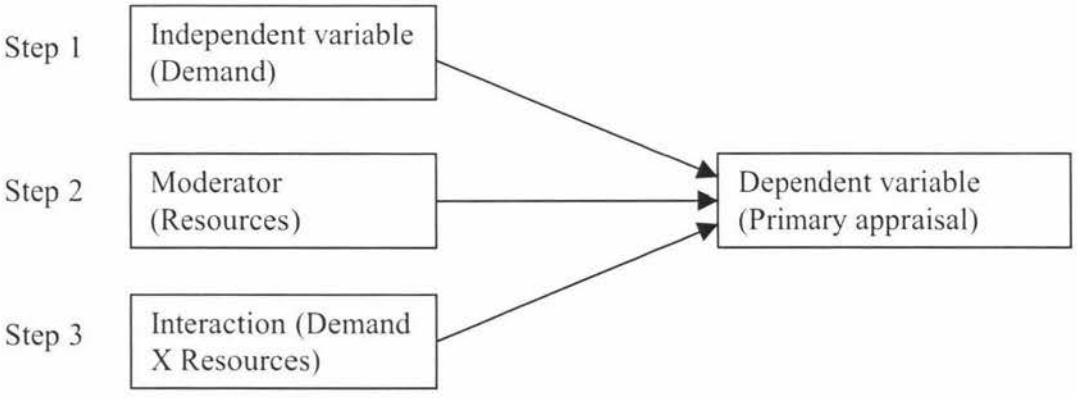

Figure 8. The moderating model, adapted from Baron and Kenny, 1986.

CHAPTER 5: RESULTS

5.1. Bivariate correlations

The correlation matrix presented in Table 2 outlines the Pearson-Product correlations between the study variables. Three significant relationships relating to support coping were observed for which there had been no formal hypotheses made. Support coping was positively correlated with emotion focused coping and resources, although only with the specific resource of peer relations and not to any other resource variable. Support coping did not have significant associations with either of the outcome variables of distress or eustress.

Although the global resource variable was not related to threat appraisals, the specific resource variable of role clarity did have a significant negative association with threat appraisal.

Alone of the specific resource variables, control was not correlated with task focused coping.

Table 2.

Bivariate correlations (N=120).

	Mean	St. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Demand	4.07	.74	1													
2. Challenge appraisal	3.82	.45	.23*	1												
3. Threat appraisal	2.68	.67	-.06	-.25**	1											
4. Task coping	3.85	.53	.43**	.48**	-.15	1										
5. Support coping	3.37	.65	.11	-.06	.14	.16	1									
6. Emotion coping	1.62	.53	-.16	-.25**	.28**	-.19	.21*	1								
7. Eustress	3.33	.55	.52**	.45**	-.04	.44**	.10	-.01	1							
8. Distress	2.22	.56	-.23*	-.30**	.37**	-.18	-.02	.34**	-.29**	1						
9. Turnover intent	2.64	.98	-.39**	-.25*	.22*	-.31**	-.02	-.05	-.52**	.45**	1					
10. Resources	3.48	.56	.33**	.28**	-.16	.35**	.24*	-.15	.49**	-.49**	-.55**	1				
11. Control	3.16	.99	.19*	.25**	-.17	.17	.04	-.14	.30**	-.36**	-.28**	.51**	1			
12. Clarity	3.56	.63	.19*	.25**	-.33**	.26**	.09	-.01	.27**	-.38**	-.31**	.61**	.40**	1		
13. Peer support	3.30	.74	.22*	.22*	-.15	.31**	.35**	-.15	.42**	-.39**	-.42**	.77**	.31**	.28**	1	
14. Leader support	3.53	.70	.33**	.23*	-.11	.32**	.18	-.18	.43**	-.41**	-.54**	.94**	.41**	.37**	.65**	1

*. Correlation is significant at the .05 level (2 tailed).

**. Correlation is significant at the .01 level (2 tailed).

5.2. Hypothesis testing – The transactional model

The positive pathway

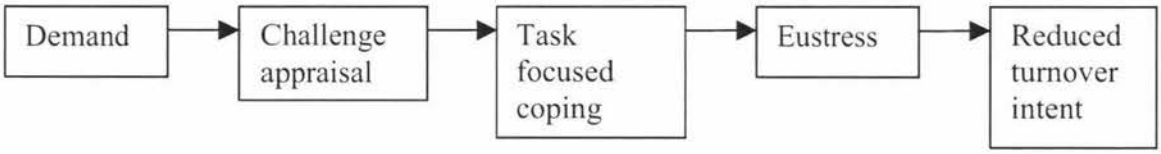

Figure 9. The proposed positive path of the stress process

Hypothesis 1 proposed that demands would be positively related to primary appraisal. Although demands were unrelated to threat appraisal, there was support for the hypothesised relationship between demands and challenge appraisal and so hypothesis 1 was partially supported (see Table 2). The significant positive correlation between challenge appraisal and task focused coping provided support for hypothesis 3 (Table 2).

Task focused coping was hypothesised to mediate the relationship between challenge appraisal and eustress (hypothesis 5). Multiple regression using Baron and Kenny's (1986) four steps for testing mediation was used to test this hypothesis. As the first three steps in Table 3 shows, the requirement that these regressions be significant was met. Step four of establishing whether mediation is occurring consists of testing the effect of both the independent variable (challenge appraisal) and the mediator (task focused coping) together on the dependent variable (eustress). Step 4 shows that when challenge appraisal and task focused coping were entered into the regression equation together the

effect of challenge appraisal was reduced (from step 1) but still significant, indicating partial but not full mediation.

Table 3.

Task focused coping as a mediator of the challenge-eustress relationship.

Step	Independent variable(s)	Dependent variable	R squared	Beta	Sig.
1.	Challenge appraisal	Eustress	.20	.45	.00
2.	Challenge appraisal	Task focused coping	.23	.48	.00
3.	Task focused coping	Eustress	.19	.44	.00
4.	Task focused coping	Eustress	.26	.29	.01
	Challenge appraisal			.31	.00

As recommended by Baron and Kenny (1986), Sobel's test of the significance of mediation was conducted (using an online statistics calculator from the site www.danielsoper.com; Soper, 2008). A test statistic of 3.61 was found, with a 2 tailed p value of 0.00, indicating that the change in beta values when the mediator was added to the regression equation was significant.

Finally, hypothesis 7, that eustress would be negatively associated with turnover intent was supported (Table 2).

The negative pathway

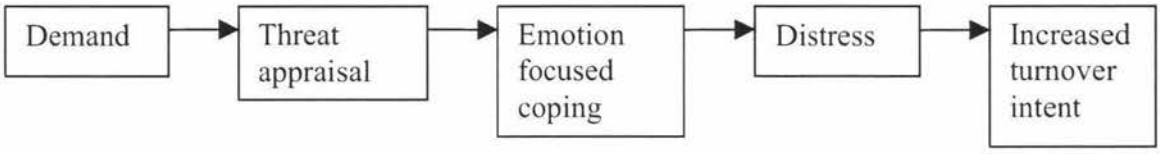

Figure 10. The proposed negative path of the stress process

Hypothesis 1 was not supported for the negative pathway since demands were not related to threat appraisals (Table 2). However, hypothesis 2, that threat appraisal would be positively related to emotion focused coping was supported (Table 2).

Multiple regression using Baron and Kenny's (1986) four steps was used to test hypothesis 4, that emotion focused coping would mediate the relationship between threat appraisal and distress. This is summarised in Table 4 which shows partial support for this hypothesis. At steps 1 and 2 threat appraisal was significantly associated with distress and emotion focused coping. Emotion focused coping in turn was associated with distress at step 3. However, when threat appraisal and emotion focused coping were entered into the regression equation together (step 4) the effect of threat appraisal was reduced but still significant, indicating partial but not full mediation. Sobel's test of the significance of mediation produced a test statistic of 2.30 with a 2 tailed p value of 0.02, indicating a significant mediation effect.

Table 4.

Emotion focused coping as a mediator of the threat-distress relationship.

Step	Independent variable	Dependent variable	R squared	Beta	Sig.
1.	Threat appraisal	Distress	.14	.37	.00
2.	Threat appraisal	Emotion focused coping	.08	.28	.00
3.	Emotion focused coping	Distress	.12	.34	.00
4.	Emotion focused coping	Distress	.20	.26	.01
	Threat			.30	.00

Finally, from Table 2, distress was significantly and positively associated with turnover intent, providing support for hypothesis 6.

5.3. Hypothesis testing - The impact of resources

The correlation matrix (Table 2) provided support for hypothesis 8, showing a positive association between resources and challenge appraisal, as well as between resources and eustress. Hypothesis 9, that resources would be correlated with threat appraisal and distress was partially supported. The correlation matrix (Table 2) showed that while resources were negatively correlated with distress, there was no significant association between resources and threat appraisal.

Moderation

The procedure described by Baron and Kenny (1986) was used with a stepwise multiple regression model to investigate hypothesis 10, that resources would moderate the relationship between demands and primary appraisal.

Threat appraisal was not significantly related to demands (Table 2) and therefore there was no relationship to moderate. However, since demands were significantly related to challenge appraisals (Table 2) it was possible to test whether resources acted as a moderator of the demands-challenge appraisal relationship. The moderating role of resources on the relationship between demands and challenge appraisal was not supported (Table 5). The interaction variable did not explain significant variance, indicating that resources do not moderate the relationship between demands and primary appraisal.

Table 5.

The moderating effect of resources on the demand-challenge appraisal relationship.

		R squared	Beta	Sig.
Step 1.		.06		
	Demands		.23	.02
Step 2.		.10		
	Demands		.16	.12
	Resources		.23	.02
Step 3.		.13		
	Demands		.22	.04
	Resources		.25	.01
	Interaction		.19	.06

Dependent variable: Challenge appraisal

Mediation

Hypothesis 11 proposed that resources would mediate the relationship between demands and primary appraisal. Demands and threat appraisal were not significantly correlated (Table 2) so there was no relationship to mediate. The hypothesised

mediating effect of resources on the relationship between demands and challenge appraisal was supported. Multiple regression using Baron and Kenny's (1986) four steps (see Figure 7) was used. The results are presented in Table 6. When demands and resources were entered into the regression equation together (step 4), the effect of demands was reduced and became insignificant, indicating a full mediation. Sobel's test statistic was calculated at 3.61 with a 2 tailed p value of 0.00, indicating a significant mediation effect.

Table 6.

Resources as a mediator of the demand-challenge appraisal relationship.

Step	Independent variable	Dependent variable	R squared	Beta	Sig.
1.	Demands	Challenge appraisal	.06	.23	.01
2.	Demands	Resources	.11	.33	.00
3.	Resources	Challenge appraisal	.08	.28	.00
4.	Resources	Challenge appraisal	.10	.23	.02
	Demands			.16	.12

Resources and coping

It was proposed that resources would have a main effect on coping. Specifically, hypothesis 11 suggested that resources would have a positive association with task focused coping, while hypothesis 12 suggested that resources would have a negative association with emotion focused coping. Hypothesis 11 was supported (Table 2) with the global resources variable showing a significant correlation with task focused coping. Looking at the four specific resource variables which make up the global resources

variable, control was the only specific resource variable which did not show a significant positive relationship with task focused coping.

In order to ensure that the correlation between resources and task focused coping was due to a direct effect and not solely through the effect resources has on challenge appraisal, Baron and Kenny's (1986) four steps for testing for mediation were undertaken to evaluate whether challenge appraisal was acting as a mediator. The results are shown in Table 7.

Table 7.

Challenge appraisal as a mediator of the resources-task focused coping relationship.

Step	Independent variable	Dependent variable	R squared	Beta	Sig.
1.	Resources	Task focused coping	.12	.35	.00
2.	Resources	Challenge appraisal	.08	.28	.00
3.	Challenge appraisal	Task focused coping	.23	.48	.00
4.	Challenge appraisal	Task focused coping	.28	.41	.00
	Resources			.24	.01

Step 4 in Table 7 shows that when challenge appraisal and resources were both entered into the regression equation, the effect of resources on task focused coping was reduced but still significant, indicating partial but not full mediation. Sobel's test indicates that this is a significant mediating effect (test statistic was 2.12, $p = 0.03$). The partial mediation provides further support for hypothesis 11, since resources maintained a significant main effect on task focused coping after the mediating effect of challenge appraisal was controlled for.

Hypothesis 12 stated that resources would have a negative relationship with emotion focused coping. This proposal was not supported (see Table 2). While there was a slight negative relationship, it was not statistically significant.

CHAPTER 6: DISCUSSION

The present study used Lazarus and Folkman's (1984) transactional model of stress to investigate the roles of appraisal, coping, and resources in the stress process. Of particular interest was the possibility of achieving positive outcomes for individuals (and by extension organisations), and the particular role of environmental resources in affecting both positive and negative outcomes. The data suggested that resources play an important role in the stress process, especially in increasing the likelihood of positive outcomes. These findings will be discussed in the following sections.

6.1. The positive pathway

The findings for the positive pathway supported Lazarus and Folkman's (1984) assertion that demands would be associated with primary appraisal, which in turn would be related to coping and outcomes (see Figure 9 for the positive pathway).

Challenge appraisals

As expected, when employees perceived the demands of their work as important the stress process was initiated (Lazarus, 1989), leading to primary appraisal. Appraisal is also the first point in the stress process at which resources begin to influence eventual outcomes. Results indicated that resources fully mediate the relationship between demands and challenge appraisal. This finding is in line with theory which states that challenge appraisals occur when resources are perceived to be high *relative* to demands (Lazarus & Folkman, 1984). Basically, an individual encountering a demand will appraise the resources available to him or her, and subsequently make a primary

appraisal (challenge or threat) based on that evaluation of resources in the context of the specific demand. The fact that resources mediated and did not moderate the relationship between demand and challenge appraisal highlights the fact that both demands *and* resources are necessary to the appraisal process; without a perception of resources (including at times a perception that there are no available resources), there cannot be any relationship between demands and appraisal. If, subconsciously, an individual does not have any idea whether or not they will be able to cope with a demand, they will not know whether to feel threatened or challenged.

Challenge appraisals were found to be associated with eustress through the mediator of task focused coping, echoing findings from previous authors that challenge appraisals influence affective outcomes through their impact on coping (McGowan et al., 2006). This is discussed in more detail in the next section.

Interestingly, challenge appraisals also had a direct effect on eustress. This makes intuitive sense, since challenge appraisals indicates confidence that the demands of a stressful situation can be overcome (Skinner & Brewer, 2002) and therefore involves an expectation of success. Such an expectation is likely to induce positive affect, an integral aspect of eustress, and in this way the perception of a demand as challenging rather than threatening should in and of itself lead to feelings of eustress. The idea that challenge appraisals directly affect eustress is not new, and several studies (see for example Tomaka, Blascovich, Kibler & Ernst, 1997) have found that challenge appraisals are characterised by positive affect.

Task focused coping

Task focused coping was found to be associated with challenge appraisals. This supports findings from other research (for example McCrae, 1984). The perception that demands represent manageable opportunities for growth and gain therefore encourages people to engage the demand in a direct way, by using coping strategies which deal with the actual stressor instead of just avoiding the emotional fallout of the stressful situation by using strategies such as denial or disengagement. The present research findings also supported previous research (for example Bowman & Stern, 1995) by indicating that task focused coping is related to eustress. In this way task focused coping mediates the relationship between challenge appraisal and eustress.

Coping is also the second point in the stress process at which resources impact outcomes. While resources affect task focused coping through the mediator of challenge appraisal, results also showed that resources have a direct effect on task focused coping. This finding reflects Holahan and Moos' (1987) study showing that people with higher levels of environmental resources were more likely to rely on task focused coping. More environmental resources are likely to provide individuals with more choice regarding their coping strategy, and therefore make it easier for people to select strategies that are appropriate to the demand. Since task focused strategies are generally more effective (Bowman & Stern, 1995), individuals with more resources (and thus choice) are more likely to utilise task focused coping.

An unexpected finding was that, alone of the specific resource variables, control was unrelated to task focused coping. This seems counterintuitive since increased control over environmental demands should give individuals more options in terms of coping

strategies, and therefore lend itself to task focused coping. However, while the literature (for example Kaldenberg & Becker, 1992; Conner & Douglas, 2005) does suggest that control influences both appraisal and stress outcomes (as indeed it did in the present study) there does not seem to be any established links between control and specific coping strategies. Holahan and Moos (1987), who suggested a resources model of coping in which coping acts as one mechanism through which resources affect stress outcomes, did not actually test control as one of the resources which would directly impact coping. It therefore seems to be that while control affects the stress process by increasing both challenge appraisals and eustress, it does not influence eustress through task focused coping. It should, however, be emphasised that by increasing challenge appraisals, control can still play a powerful role in encouraging positive outcomes since challenge appraisals are both directly and indirectly related to eustress.

Finally, it should be kept in mind that control was measured with the single item "I feel that I have control over the demands I face at work". It was therefore not possible to establish whether this was a reliable measure. It is also possible that important aspects of control were not measured. For instance, perhaps having control over project deadlines would impact on an individual's choice of coping strategy, yet this aspect of control may not have been measured with the single item.

Positive outcomes

Echoing previous research (Bowman & Stern, 1995; McGowan et al., 2006), eustress was associated with task focused coping, as well as being directly influenced by challenge appraisals. Eustress in turn was related to decreased turnover intentions amongst employees, indicating that perhaps employees who have more positive

experiences negotiating stressful job demands are more likely to remain in the company where they experienced these positive stress outcomes. This shows that stress does not need to be regarded as a wholly negative aspect of the work environment; the stress process includes the possibility of benefit for both employee and organisation.

6.2. The negative pathway

The findings for the negative pathway did not completely support Lazarus and Folkman's (1984) model where demands would be associated with primary appraisal, which in turn would be related to coping and outcomes (see Figure 10 for the negative pathway).

Threat appraisals

Unexpectedly, demands were not associated with threat appraisals. This finding runs contrary to previous research which shows that a threat appraisal occurs when the situation is relevant and environmental demands are perceived as taxing or exceeding personal resources or ability to cope (Blascovich & Tomaka, 1996). It is possible that the participants in the present research simply did not perceive their work demands to exceed their coping resources, but this scenario seems unlikely to occur in the workplace. A more probable explanation for the lack of a correlation between demands and threat appraisals could be the measurement of demands.

Demands were measured with the single item "The demands I face at work are important to me". This item only measures one aspect of demands, which is the importance or relevance of work demands. So while the relevance of the situation may be measured, the extent that it taxes or exceeds resources is not captured in this item.

The narrow definition of demands evoked by the single item may therefore fail to capture a relationship which exists in reality. Several previous authors have also discussed how job importance can be a source of job satisfaction (Britt, Adler & Bartone, 2001), which raises the question that perhaps the present study may have measured a positive aspect of work demands which would be related to positive outcomes and not negative ones.

Alternatively, using a measure of demand importance may in fact have tapped into a different construct, such as the meaningfulness of work. Job importance has in the past been used as a subscale of measures of meaningful work (Britt, Adler & Bartone, 2001). That the present research may have inadvertently measured an aspect of meaning may be especially likely given that the item ended with "important *to me*" [italics added], indicating personal importance associated with the demand. According to Park and Folkman (1997), the personal significance of a demand or event is the best indicator of how *meaningful* that event is to the individual.

Meaningful work has often been associated with more positive outcomes. Nelson and Simmons (2003; 2005) for example, lists meaningfulness as an indicator of eustress, stating that it represents an aspect of engagement which in turn is one of the primary indicators of eustress (a statement also reflected by Maslach & Leiter, 2001). Research by Britt, Adler and Bartone (2001) found that the tendency to find meaning in one's work was related to an increased ability to deal with stress and derive benefits from the work situation. If the demands measure were in fact measuring meaning, this could explain why demands were important in the positive stress pathway leading to eustress, yet did not play a significant role in the negative pathway.

Threat appraisals, however, still functioned as an instigator of the negative pathway. As expected, threat appraisals led to emotion focused coping which in turn led to distress. It is likely that because of the expectation of failure inherent in threat appraisals (Skinner and Brewer 2002), individuals regard attempts to deal directly with the demand as futile, and instead rely on strategies which ameliorate their negative feelings in the short run but which are less effective in the long run. Threat appraisals also had a direct effect on distress, indicating that as well as being associated with more ineffective coping strategies, the mere perception of demands as threatening could elicit negative feelings in the individual.

Interestingly, the global resources variable was not related to threat appraisals, indicating that perhaps resources do not play as important a role in the negative pathway as it does in the positive pathway. This is an unexpected finding since threat appraisals, like challenge appraisals, require the individual to make an evaluation of both demands and resources (Blascovich & Tomaka, 1996). It could be that environmental resources do play an important role in threat appraisals, but that those resources investigated in this study (except for role clarity, discussed below) do not. Alternatively, it may be that environmental resources are indeed less important in the negative pathway, and that personal resources, such as self esteem or psychological hardiness are more important.

The only specific resource variable which did correlate with threat appraisals was role clarity, indicating that perhaps individuals with a clear idea of what is expected of them will be less likely to view job demands as threatening. This finding is in line with research showing that role ambiguity has a detrimental effect on stress outcomes (for example Lang et al., 2007). It also suggests that a misunderstanding of what coping with

a particular demand will actually involve leads to threat appraisals, while a clear understanding of demands may be less likely to do so.

Emotion focused coping

In line with previous research (for example McCrae, 1984) threat appraisals were found to be associated with emotion focused coping. Emotion focused coping was in turn associated with distress, and in this way functioned as a mediator between threat appraisals and negative outcomes. Several other authors (such as Terry & Jimmieson, 2003; Bowman & Stern, 1995) have also found this mediating role of emotion focused coping on distress.

Resources do not appear to play a direct role in affecting emotion focused coping, suggesting that perhaps emotion focused coping operates in a different fashion to task focused coping, which is influenced by both appraisal and resources. The finding that emotion focused coping is only affected by threat appraisal, and that resources do not decrease this type of coping is unexpected. Again, it could be that emotion focused coping is influenced either by environmental resources which were not measured in the present study, or alternatively that perhaps personal resources are more important to this type of coping than environmental resources. Since task and emotion focused coping are separate constructs, both may be used simultaneously. The present results suggest that environmental resources may increase the use of task focus coping but may not decrease the use of emotion focused coping.

Support coping

A finding for which no formal predictions had been made was that support coping was associated with emotion focused coping. This association is not particularly surprising since the support scale included the "using emotional support" subscale from the Brief COPE. That support coping is related to emotion focused coping suggests that in some instances relying on social support may have negative consequences. Hobfoll (1989), stated that social support is beneficial when it provides for situational needs, and benign or even harmful when it does not. So it could be that seeking emotional support, perhaps at the expense of more task focused strategies, may lead individuals to employ more emotion focused strategies. However, support coping was not related to distress or eustress, making it difficult to ascertain what effects, if any, it actually had on the stress process.

The fact that support coping was unrelated to task focused coping is perhaps more surprising given that the support scale also included the "using instrumental support" subscale from the Brief COPE, which one would expect to facilitate task focused coping. It may be that a more comprehensive measure of support coping or social support seeking would provide a clearer picture of the impact of this type of coping on stress outcomes.

The only specific resource associated with support coping was peer relations, which makes sense since better peer relations should facilitate social support. Also, while support coping itself was unrelated to stress outcomes in this study, peer relations was associated with a decrease in distress and an increase in eustress. This would suggest that aspects of social support (perhaps the instrumental support peers can provide) may

indeed play a role in facilitating positive outcomes, as indicated by the review of outcome studies by Hogan, Linden & Najarian (2002), which examined the effects of peer support interventions and concluded that social support interventions are generally effective.

Negative outcomes

In line with much previous research (for example Bowman & Stern, 1995; McGowan et al., 2006), distress was associated with emotion focused coping, as well as being directly influenced by threat appraisals. Distress in turn was related to increased turnover intentions amongst employees, indicating that employees who have more negative experiences negotiating stressful job demands may be less likely to remain in the company where they experienced these negative stress outcomes. These findings support the widely held view that distress is a negative phenomenon which results in negative consequences for both the individual and the organisation.

6.3. Limitations

While most of the measures used in the present study had high internal reliability and had been used by a number of previous authors, two of the measures were somewhat questionable. Demands were measured using a single item that, as has been discussed above, may have been tapping into a different construct than was intended. This probably influenced the study outcomes and means that the conclusions may only be valid when dealing with "demand importance" and not with other aspects of demands. However, this issue should only affect the findings regarding relationships between demands and appraisal (as well as the mediation by resources of this relationship).

Findings regarding the importance of primary appraisal and resources in securing positive outcomes should still be valid.

Control was also measured with a single item which could mean that important aspects of the construct were not measured. This could have resulted in relationships which exist in reality not being found in the sample.

While the sample size of 120 is reasonably large, many of the questionnaires were incomplete. However, pair-wise deletion meant that the largest possible sample was used for each analysis. In terms of generalisability, the sample was representative across genders with a 49-51% split. All age groups (between 18 and 69) were represented, although the majority (80.8%) of respondents were below 50 years old. This may mean that the findings should not be generalised to older workers.

Unfortunately, the sample was very skewed towards "staff" with a small percentage of managers. Although this is probably representative of the larger population, where there will be more general staff than managers, it does make it more difficult to generalise findings to managers, since the sample of managers was quite small (only 22 individuals). There were also no executives in the sample, again making it more difficult to generalise to this group of people. On the other hand, it is not expected that managers and executives will experience the stress process differently to other people.

6.4. Implications for practice

The present research highlighted the importance of environmental resources in promoting positive outcomes from the stress process, as well as reducing negative

outcomes. All the resources investigated had a positive association with eustress, while having a negative association with distress, and organisations should therefore aim to increase the presence and salience of these resources. Findings suggest that increased perceptions of control over demands, role clarity, and good relations with peers and leaders will be beneficial to individuals coping with stress. Practical interventions on the part of the organisation could therefore include strategies to increase control, such as giving employees more autonomy (where appropriate) in deciding how and when their work should be done.

Fostering clear role expectations is also important, and organisations should aim to have relevant and clear job descriptions for every role, as well providing constructive and timely feedback regarding job performance. Role clarity is an especially important area for intervention as it was the only resource which was found to also be negatively associated with threat appraisals. Interventions to improve communication amongst peers, as well as between leaders and subordinates will be beneficial, since this could improve social relations and facilitate positive outcomes.

6.5. Suggestions for future research

More detailed research is needed investigating which aspects of the abovementioned resources are important for eustress generation. For example control was measured in an especially general way and therefore needs to be investigated more fully to understand what kinds of control over demands are beneficial (e.g. control over deadlines, work structure, goal setting and so forth). The possibility of a relationship between control and task focused coping needs to be explored, since the lack of any such relationship in the present research may be due to measurement issues.

Also, studies investigating a greater variety of environmental resources could provide useful insights on other areas where organisations could intervene in order to improve stress outcomes. Such studies may also identify resources which are important in decreasing threat appraisals or emotion focused coping.

While the present study focused on environmental resources, future research could investigate interactions between environmental and personal resources, and how these affect the stress process. For example, would environmental resources be as important to people who had higher levels of personal resources such as self esteem? Or do environmental resources help individuals build personal resources by increasing their positive success experiences?

Another area which may warrant further investigation is the role of social support coping in the stress process, and under which, if any, circumstances this type of coping facilitates either positive or negative outcomes.

In general, while there is an abundance of research on the negative pathway of the stress process, more research is needed to identify aspects of the workplace which can increase positive stress experiences and outcomes.

6.6. Conclusion

The present research found that environmental resources play a pivotal role in encouraging positive outcomes from the stress process. Perceptions of higher levels of environmental resources increased the likelihood of challenge appraisals and task focused coping, with the end result being eustressed workers. In order to increase

eustress organisations need to increase employees' perceptions of control, role clarity, and peer and leader relations. Environmental resources were not only associated with eustress, but may also serve to decrease distress. While only role clarity was specifically associated with decreased threat appraisals, all the resources investigated were related to decreased feelings of distress amongst workers. This study therefore highlights the role of the organisational environment in determining stress outcomes, and emphasises aspects of work life where organisations can proactively manage stress in the workplace.

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Appendix A:
Questionnaire

Massey University

Dear (Company name) employee.

My name is Anika van der Merwe and I am conducting some research for my Masters thesis in Organisational Psychology. I am interested in how stressful situations can sometimes lead to positive outcomes such as feeling motivated and engaged in work. The broad aim of my research is to identify the organisational factors which may increase the likelihood that employees will respond to stressful situations in ways which will result in positive outcomes.

Please find attached a link to a short survey. It takes 10 to 20 minutes to complete. I would appreciate it very much if you would participate in this research.

Your agreement to assist with this survey is voluntary and all individual responses will be kept confidential. You can refuse to take part, or quit at any time without penalty or prejudice. If there are questions in this survey that you do not wish to answer, please leave those answers blank.

If you have questions or would like to know more about the research, please contact me (ph: [redacted] email: [redacted]) or my supervisor Dianne Gardner (ph: 09 414 0800 ext. 41225 email: d.h.gardner@massey.ac.nz).

If you have any questions about this research, I will be pleased to answer them.

Yours sincerely,

Anika van der Merwe.

1.

Thank you for your participation. Please ensure that you have read the information contained in the email before answering these questions.

1. Please indicate how strongly you agree or disagree with the following statements about the stresses and demands of your work.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. The demands I face at work are important to me.	○	○	○	○	○
2. I feel that I can cope with the demands at work.	○	○	○	○	○
3. I feel that I have control over the demands I face at work.	○	○	○	○	○

2. Please read the following statements and use the rating scale to indicate how descriptive they are of your opinion of your working environment.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Most of the time I know exactly what I have to do on my job.	○	○	○	○	○
2. As I do my job, I can tell how well I'm performing.	○	○	○	○	○
3. In my job I have complete responsibility for deciding when and how to do my job.	○	○	○	○	○
4. On my job I know exactly what is expected of me.	○	○	○	○	○
5. Just doing the work required by my job gives me many chances to figure out how well I'm doing.	○	○	○	○	○
6. On my job, most of my tasks are clearly defined.	○	○	○	○	○
7. I depend on my supervisor(s)' instructions in regard to when and how to do my job	○	○	○	○	○

2.

3. Please indicate the extent to which the following statements are descriptive of the way employees in your work group/organisation interact with each other.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. We tell each other the way we are feeling.	○	○	○	○	○
2. My co-workers are afraid to express their real views.	○	○	○	○	○
3. In my work group everyone's opinions get listened to.	○	○	○	○	○
4. If we have a decision to make, everyone is involved in making it.	○	○	○	○	○

4. The following questions are about supervisors and leaders in your organisation. Please indicate how strongly you agree or disagree with the following statements about your supervisor(s).

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Keeps informed about the way subordinates think and feel about things.	○	○	○	○	○
2. Keeps subordinates informed.	○	○	○	○	○
3. Helps subordinates develop their skills.	○	○	○	○	○
4. Has the respect of subordinates.	○	○	○	○	○
5. Deals with subordinates well.	○	○	○	○	○
6. Encourages subordinates to participate in making important decisions.	○	○	○	○	○
7. Encourages people to speak up when they disagree with a decision.	○	○	○	○	○
8. Is always fair with subordinates.	○	○	○	○	○
9. Tends to play favourites.	○	○	○	○	○
10. Helps you solve work-related problems.	○	○	○	○	○
11. Helps you discover problems before they get too bad.	○	○	○	○	○

5. Please indicate how much you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. I tend to focus on the positive aspects of any situation.	○	○	○	○	○
2. I worry that I will say or do the wrong things.	○	○	○	○	○
3. I often think about what it would be like if I do very well.	○	○	○	○	○
4. I believe that most stressful situations contain the potential for positive benefits.	○	○	○	○	○
5. I worry about the kind of impression I make.	○	○	○	○	○
6. I am concerned that others will find fault with me.	○	○	○	○	○
7. Overall I expect that I will achieve success rather than experience failure.	○	○	○	○	○
8. In general I look forward to the rewards and benefits of success.	○	○	○	○	○
9. Sometimes I think that I am too concerned with what others think of me.	○	○	○	○	○
10. I feel that difficulties are piling up so that I cannot overcome them.	○	○	○	○	○
11. I lack self confidence.	○	○	○	○	○
12. A challenging situation motivates me to increase my efforts.	○	○	○	○	○
13. In general I anticipate being successful at my chosen pursuits, rather than expecting to fail.	○	○	○	○	○
14. I worry what other people will think of me even when I know that it doesn't make any difference.	○	○	○	○	○
15. I am concerned that others will not approve of me.	○	○	○	○	○
16. I look forward to opportunities to fully test the limits of my skills and abilities.	○	○	○	○	○
17. I worry about what other people may be thinking about me.	○	○	○	○	○

18. I feel like a failure.	○	○	○	○	○

4.

6. The following statements describe different ways in which people might react to stressful situations. Please indicate how often each statement relates to how you would generally respond to stressful situations.

	Never	Rarely	Sometimes	Quite often	Extremely Often
1. I concentrate my efforts on doing something about the situation I'm in.	○	○	○	○	○
2. I try to come up with a strategy about what to do.	○	○	○	○	○
3. I try to see the situation in a different light, to make it seem more positive.	○	○	○	○	○
4. I accept the reality of the fact that it has happened.	○	○	○	○	○
5. I make jokes about it.	○	○	○	○	○
6. I try to find comfort in my religion or spiritual beliefs.	○	○	○	○	○
7. I get emotional support from others.	○	○	○	○	○
8. I try to get advice or help from other people about what to do.	○	○	○	○	○
9. I turn to work or other activities to take my mind off things.	○	○	○	○	○
10. I say to myself "this isn't real".	○	○	○	○	○
11. I say things to let my negative feelings escape.	○	○	○	○	○
12. I use alcohol or other drugs to make myself feel better.	○	○	○	○	○
13. I give up trying to deal with it.	○	○	○	○	○
14. I criticize myself.	○	○	○	○	○
15. I take action to try to make the situation better.	○	○	○	○	○
16. I think hard about what steps to take.	○	○	○	○	○
17. I look for something good in what is happening.	○	○	○	○	○
18. I learn to live with it.	○	○	○	○	○
19. I make fun of the situation.	○	○	○	○	○

20. I pray or meditate.	○	○	○	○	○
21. I get comfort and understanding from someone.	○	○	○	○	○
22. I get help and advice from other people.	○	○	○	○	○
23. I do something to think about it less, such as going to the movies, watching TV, reading, daydreaming, sleeping or shopping.	○	○	○	○	○
24. I refuse to believe that it has happened.	○	○	○	○	○
25. I express my negative feelings.	○	○	○	○	○
26. I use alcohol or other drugs to help me get through it.	○	○	○	○	○
27. I give up the attempt to cope.	○	○	○	○	○
28. I blame myself for things that happened.	○	○	○	○	○

5.

7. Please read the statements below and indicate the amount to wich any part of your job (e.g. the work, coworkers, supervisor, clients, pay etc.) has made you feel that emotion in the past 30 days.

	Never	Rarely	Sometimes	Quite often	Extremely often
1. My job has made me feel angry.	○	○	○	○	○
2. My job has made me feel anxious.	○	○	○	○	○
3. My job has made me feel at ease.	○	○	○	○	○
4. My job has made me feel bored.	○	○	○	○	○
5. My job has made me feel calm.	○	○	○	○	○
6. My job has made me feel content.	○	○	○	○	○
7. My job has made me feel depressed.	○	○	○	○	○
8. My job has made me feel discouraged.	○	○	○	○	○
9. My job has made me feel disgusted.	○	○	○	○	○
10. My job has made me feel ecstatic.	○	○	○	○	○
11. My job has made me feel energetic.	○	○	○	○	○
12. My job has made me feel enthusiastic.	○	○	○	○	○

13. My job has made me feel excited.	○	○	○	○	○
14. My job has made me feel fatigued.	○	○	○	○	○
15. My job has made me feel frightened.	○	○	○	○	○
16. My job has made me feel furious.	○	○	○	○	○
17. My job has made me feel gloomy.	○	○	○	○	○
18. My job has made me feel inspired.	○	○	○	○	○
19. My job has made me feel relaxed.	○	○	○	○	○
20. My job has made me feel satisfied.	○	○	○	○	○

6.

8. Please indicate how strongly you agree or disagree with the following statements about your job and how you feel at work.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. When I get up in the morning, I feel like going to work.	○	○	○	○	○
2. At my work, I feel bursting with energy.	○	○	○	○	○
3. At my work I always persevere, even when things do not go well.	○	○	○	○	○
4. I can continue working for very long periods at a time.	○	○	○	○	○
5. At my job, I am very resilient, mentally.	○	○	○	○	○
6. At my job I feel strong and vigorous.	○	○	○	○	○
7. To me, my job is challenging.	○	○	○	○	○
8. My job inspires me.	○	○	○	○	○
9. I am enthusiastic about my job.	○	○	○	○	○
10. I am proud of the work that I do.	○	○	○	○	○
11. I find the work that I do full of meaning and purpose.	○	○	○	○	○
12. When I am working, I forget everything else around me.	○	○	○	○	○
13. Time flies when I am working.	○	○	○	○	○
14. I get carried away when I am working.	○	○	○	○	○
15. It is difficult to detach	○	○	○	○	○

myself from my job.	○	○	○	○	○
16. I am immersed in my work.	○	○	○	○	○
17. I feel happy when I am working intensely.	○	○	○	○	○

7.

9. .

	Never	Rarely	Sometimes	Quite often	Extremely often
How frequently do you think about leaving your current employer?	○	○	○	○	○

10. .

	Very unlikely	Unlikely	Don't know	Likely	Very likely
How likely is it that you would search for a job in a different organisation?	○	○	○	○	○
How likely is it that you will leave your employer in the next year?	○	○	○	○	○

11. Gender:

- ☐ Male
- ☐ Female

12. Level in the organisation

- ☐ Executive
- ☐ Manager
- ☐ Staff

13. Age:

- ☐ 18-29
- ☐ 30-39
- ☐ 40-49
- ☐ 50-59
- ☐ 60-69
- ☐ 70-79

8.

Thank you for participating in this research. If you have any questions or concerns please feel free to contact the researcher (details are provided in the email).

A summary of the results of this survey will be distributed via email.

Appendix B:
Coping measure factor analysis

Table B1.

KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy		.64
Bartlett's test of sphericity	Approx. chi-square	1132.32
	df	378
	Sig.	.00

Table B2.

Rotated component matrix

	Component			
Item	1	2	3	Communalities
Active 1	.75			.66
Plan 1	.72			.63
Reframe 1	.75			.67
Active 2	.71			.56
Plan 2	.65			.59
Reframe 2	.68			.65
Emotional 1		.71		.62
Instrumental 1		.79		.72
Emotional 2		.74		.73
Instrumental 2		.86		.77
Self blame 2		.30		.71
Denial 1			.65	.51
Venting 1			.47	.50
Bhvl Disengagement 1			.69	.55
Denial 2			.78	.67
Venting 2			.28	.51
Bhvl Disengagement 2			.67	.57

Extraction method: Principal component analysis

Rotation method: Varimax with Kaiser normalisation

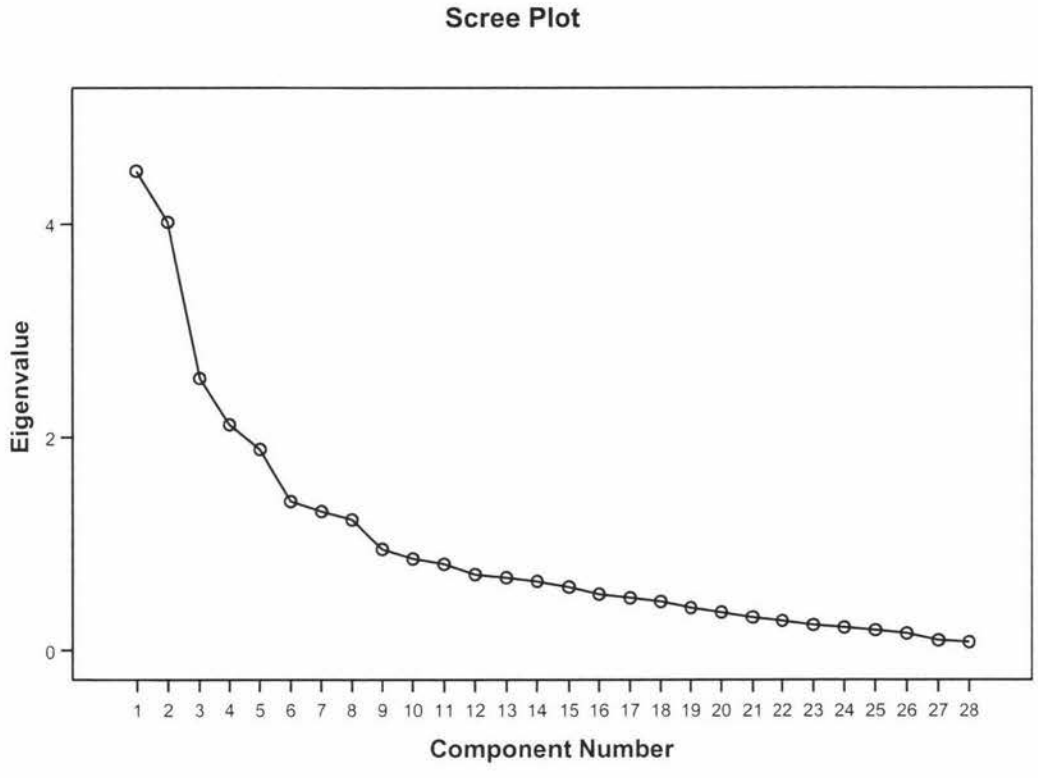

Figure B1: Factor analysis scree plot.