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Resilience training in a restructuring organization

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

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Heather Leanore Bullen

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Abstract

The aim of the present research was to investigate the extent to which resilience training helped to minimize employee stress levels and improve wellbeing during a time of organizational change. The 33 employees involved in this study consisted of three groups. Group 1 received resilience training in 2002 and 2003; Group 2 received resilience training in 2003; and Group 3, the control group, received no resilience training during this study.

A baseline measure of stress and wellbeing was collected for all groups before the start of the 2003 resilience training (Time 1, April) and repeated after the resilience training (Time 3, November). Data was also collected on the resilience variables of curiosity and coping at Time 2 (August) and repeated at post training (Time 3, November). The 2003 restructuring was consistent for all groups at Time 1 (April) but subsequent changes during the year impacted more heavily on the resilience trained groups.

The results showed that group 1 (Trained in 2002) reported significantly less somatic distress than the other two groups at baseline (Time 1). While none of the hypothesized differences were found at Time 3, the resilience trained groups showed low stress levels and good wellbeing levels despite the organizational stressors. All groups showed reasonable levels of resilient coping and low levels of non-resilient coping at both times.

The research shows some support for the effectiveness of the resilience training, although the results are interpreted with caution due to the small sample size and the different exposure to work stressors of the control group. Further research on resilience is recommended.

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Chapter 1: Introduction

For many decades, psychology has concentrated on mental illness. The focus has been on the diagnosis and treatment of pathology. While much has been learned about mental illness and treatment, for many years the concept of mental wellbeing and strengthening positive qualities was overlooked (Seligman & Csikszentmihalyi, 2000). In recent years a swing towards prevention (rather than just treatment) of mental illness has occurred. The observation that certain people would flourish despite high risk factors or trauma became important in identifying ways to build strengths that act as a buffer against the development of pathological symptoms. The preventive focus has gathered momentum and a new wave of psychology has emerged called positive psychology.

“Positive psychology” looks at the human qualities that build strengths and competencies among those at risk, among the normal population and among communities. A wealth of positive, strength based qualities and virtues have been studied such as courage, optimism, interpersonal skill, faith, hope and perseverance, and new research is emerging on strengthening mental health and improving quality of life (Seligman & Csikszentmihalyi, 2000). One of the concepts that has gained strength with the positive psychology movement is the concept of resilience.

Defining resilience

The concept of resilience emerged from studies of at-risk children who flourished in the face of adversity when risk factors suggested they should not. Initially seen as a rare quality held by a few individuals, the study of resilience has expanded and resilience is now recognised as a more common occurrence (Masten, 2001). A simple definition of resilience is “the capacity for bouncing back from adversity” (Paton, Violanti & Smith, 2003, p.4). Researchers have identified particular qualities that are associated with resilient individuals and more recent research looks at the process of resilience and multi-level factors that are involved. Further insight into the mechanisms involved with resilience has emerged from studies of post-traumatic growth with emergency and disaster workers (Paton et al., 2003). These studies provide a wealth of knowledge into how resilience may be fostered.

One of the common themes, regardless of how resilience is operationalised, is the focus on positive qualities, strengths or phenomena that increase an individual’s ability to cope with adversity in a way that promotes healthy outcomes (Tedeschi & Kilmer, 2005).

Individual resilience is defined as the capacity to draw on personal qualities and resilient coping behaviours that strengthen ones ability to manage adversity resulting in less stress and improved wellbeing (Tedeschi & Kilmer, 2005).

The aim of this research was to investigate the effectiveness of a training programme to build individual resilience among employees in a restructuring workplace. The resilience training was expected to help minimize employee stress levels and improve wellbeing during a period of organizational change. Organizational change is a recognized cause of stress at work (Mak & Mueller, 2000). The next chapter will discuss work-related stress including that arising from organizational change and subsequent chapters will discuss the concept of resilience, ways in which resilience can be fostered and the aims, method, results and outcomes of the present research.

Chapter 2: Stress and organizational change

Occupational stress

Employees in all occupations are at risk of being exposed to work related stress. While stressors may not always be in the form of major disasters and traumatic events, the impact of prolonged job stress can have severe effects on individuals and organizations (Sparks, Faragher & Cooper, 2001). Work related stress has been linked to a range of negative physical and psychological outcomes for employees including cardiovascular disease and burnout. As well as having an impact on the wellbeing of the individual, occupational stress impacts on the financial performance of an organization in terms of sick leave, staff turnover, accidents and lost productivity (Beehr & O'Driscoll, 2002; Sparks et al., 2001).

Employee stress is of increasing concern for New Zealand employers. The Health and Safety in Employment Amendment Act in 2003 identifies workplace stress as a potential hazard and source of harm. Employers have a legal duty to protect the health and safety of employees (and others) at work (Walls & Darby, 2004). Recent trends suggest that while health and safety hazards are being minimized or eliminated, work-related stress and fatigue are rising. The workforce is increasingly prone to work related psychological illness, stress-

related illness and musculo-skeletal disorders and the focus on work-related health issues is increasing (New Zealand Government, 2006).

The sources of workplace stress are many. These can be grouped into categories such as job, task and workplace related factors, role-related stressors, people-related problems, career development, job security and organizational structure, climate and culture and home/work balance interface (Zeidner, 2005). The source of occupational stress of most relevance to this study is that of organizational change.

Organizational change

Organizational change, restructuring and downsizing are the norm in today's workforce. The trend of the last few decades continues as the advent of globalization, improved technology and the need for increased economic competitiveness sees companies continuously merging, restructuring and downsizing in order to survive (Sparks et al., 2001). If change is managed badly, the consequences can be damaging for the people of the organization and for profitability. Organizations that manage change well are more likely to survive and flourish. Resilience is of ever-increasing relevance for employers and employees as they seek to successfully manage change and adversity. While research in this area is minimal, it is becoming of increasing importance,

particularly in the areas of corporate restructuring and change management (Mallak, 1998).

Moore, Grunberg & Greenburg (2004) investigated the impact of repeated downsizing episodes on the wellbeing of employees and found that the more exposure an employee had to downsizing (either directly or indirectly) the more likely they were to experience negative outcomes in the form of increased job insecurity, intention to quit, depression and health problems. This study also failed to support the notion that repeated downsizing would result in employees becoming resilient towards restructuring. Another study by Kalimo, Taris and Schaufeli (2003) looked at employee wellbeing in relation to past experiences of downsizing and future expectations of downsizing. Both aspects of downsizing showed a direct impact on psychological strain (including emotional exhaustion and health complaints). The effect of anticipated future downsizing on employee wellbeing was strong even if employees were unsure whether they would be personally affected. Rumors of restructuring may be as detrimental to employee wellbeing and counterproductive to efforts of organizational change as actual downsizing (Kalimo et. al., 2003).

Organizational change is a major source of occupational stress largely because it results in uncertainty. The uncertainty may be experienced in terms of role stress, role ambiguity, role overload, threat to financial security, threat to career paths etc. Job insecurity is commonly identified as a major workplace stressor. While perceptions of job insecurity will vary from individual to individual, recent

research has found job insecurity to be a significant workplace stressor even after controlling for moderator variables such as personality factors and coping resources (Mak & Mueller, 2000). Job insecurity has also been shown to have a negative impact on employee wellbeing including decreases in general health, increases in distress, increases in the use of medications and increases in the number of sick days taken (Sparks et al., 2001). Perceptions of job insecurity have also been found to be strongly associated with high levels of vocational, psychological and physical occupational strain (Mak & Mueller, 2000).

Protective factors

The role of social support in building employee resilience and minimizing stress outcomes is important. Swanson & Power (2001) studied the moderating impact of social support and dispositional affect on role stress after restructuring in a public utility company. At post-restructuring, social support was linked to lower role stress. Social support was also linked to more positive feedback and less negative feedback at post-restructuring while the impact of dispositional affect was not consistent across occupational groups. The importance of manager and co-worker support and feedback during downsizing was highlighted (Swanson & Power, 2001).

Research suggests that employee participation in the change process, communication of change related information and effective leadership might

mediate the relationship between organizational change and employee stress. The finding from studies of three separate organizations undergoing organizational change highlighted that if employees perceive change as positive in terms of participation, change related communication and effective leadership, their readiness for change and subsequent psychological adjustment is better (Terry & Jimmieson, 2003). Another study of work characteristics and employee wellbeing in a downsizing organization found that strategies designed to increase control, clarity and participation (how well employees were kept informed), resulted in wellbeing staying stable over time despite an increase in work demands (Parker, Chmiel & Wall, 1997).

The perception of control is very important when employees are experiencing job insecurity. A study of the strategies used to cope with stress among middle and executive managers in a downsizing organization showed that middle managers experienced higher perceptions of job insecurity and powerlessness than executives and were more likely to use avoidance and escape coping strategies, but both levels experienced job insecurity, powerlessness and stress reactions as a result of the downsizing (Armstrong-Stassen, 2005). Further support for the association of control with coping style comes from Troup and Dewe (2002). In a study of employees at four New Zealand public sector organizations, the nature of control in relation to work-place stress was explored. They distinguished between perceived control and the desire for control and found that the more important a sense of control was to individuals, the higher

the use of problem focused and emotional focused types of coping (Troup & Dewe, 2002).

In summary, the uncertainty and stress due to organizational change can be partly reduced if organizations provide social support, timely and accurate change related information, good leadership and foster coping strategies for increased employee wellbeing (Swanson & Power, 2001; Terry & Jimmieson, 2003). Having acknowledged the influence of organizational factors on employee stress outcomes during organizational change, the next chapter will discuss individual resilience factors that may influence how well employees cope with organizational change.

Chapter 3: Resilience

The main focus of the present research is on the effectiveness of resilience training in reducing employee stress and increasing wellbeing. It focuses both on fostering individual characteristics associated with resilience and on resilience as a process of coping. Much of the understanding of resilient qualities has emerged from research with children and at-risk populations. Studies with high-risk children have helped to identify the positive characteristics that differentiate children who are successful from those who are not (Mathews, 2005). An increasing body of research on resilience has also come from studies of emergency and disaster workers. Some of the qualities associated with resilient people include dispositional factors such as optimism, hardiness, personality factors, such as extraversion and openness to experience, cognitive processes, such as sense of coherence and a range of coping behaviours (Paton et al., 2003; Paton, Smith, Violanti & Eranen, 2000).

An individual resilience model is presented in Figure 1. This is adapted from the model of hardiness presented by Maddi and Khoshaba, (2003, fig. 4.1., pp. 46) and the resilience and growth process model presented by Paton et al. (2003, fig. 1.1., p. 6). The hardiness model describes the interaction of individual protective factors such as attitudes and coping on the stressor-strain process. The hardiness model includes hardy attitudes, inherited vulnerabilities, hardy

coping skills, health practices and hardy social support factors that influence the impact of stressful circumstances (Maddi & Khoshaba, 2003). The hardiness model provides a useful framework for studying individual resilience as it considers the interaction of individual protective factors, social support, coping strategies and behaviors which act as a buffer and interact with the stressor-strain relationship to influence the outcome. While the hardiness model defines outcomes in terms of stress and performance impairment, the model adapted for this study on individual resilience also accommodates the possibility of positive outcomes. The resilience and growth process model by Paton et al. (2003) also accommodates the possibility of both positive and negative outcomes (distress and growth) from the interaction of adverse event characteristics, organizational factors, environmental factors, personal and team resilience factors. As the focus of this study is on individual resilience in a workplace setting, the individual resilience model in Figure 1 combines organizational, environmental and group influences together under “organizational factors”.

The mechanisms that contribute to individual resilience are still being researched. The definition used in this study acknowledges that there are individual traits (some of which can be taught) that foster resilience and there are resilient coping processes (which can be taught), which increase the likelihood of positive outcomes from exposure to stressful events. Given the focus on resilience and building strengths within the positive psychology paradigm, equal attention is given both to the ways in which resilience impacts

on the reduction of pathology and the ways in which it can improve positive wellbeing (Tedeschi & Kilmer, 2005).

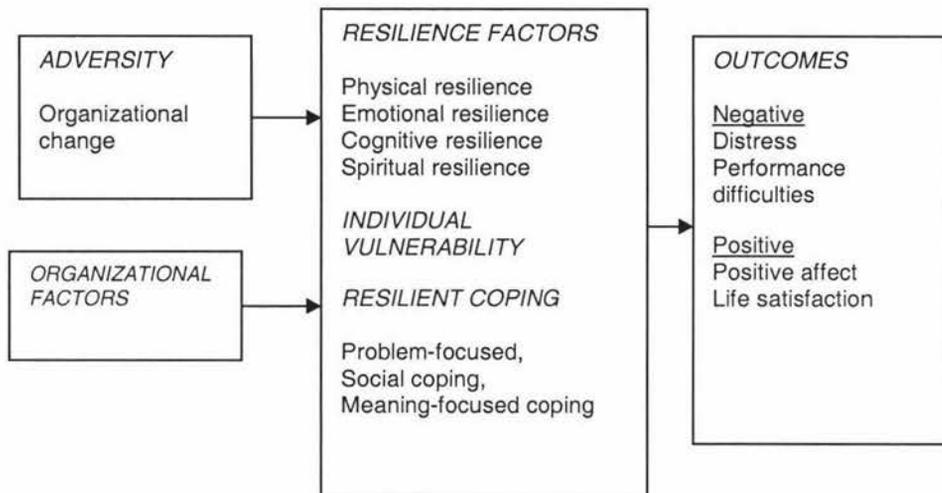


Figure 1: Individual resilience model

Adversity

Adversity refers to the life stressors or challenges that people face that may or may not result in stress. While much of the past stress literature has focused on negative outcomes, life stressors or adversity do not always result in stress and some people experience positive outcomes (Paton et al., 2003). The stressors relevant to this study are work-related stressors in particular organizational change. As detailed in chapter 2, research indicates that organizational change and job uncertainty are often a major source of stress (Mak & Mueller, 2000). The individual resilience model looks at the individual resilience factors that influence the likelihood of a positive or negative outcome in the face of adversity.

Organizational factors

In an organizational setting there are characteristics of the workplace that can foster or hinder individual resilience. A resilient organization may implement policies and procedures that foster employee health and wellbeing. Management may provide positive role models and a supportive work culture within which to resolve stress and other work related issues. Management style such as good communication, clear feedback and the management of uncertainty and ambiguity is also an important part of the resilience equation (Johnson & Paton, 2003; Terry & Jimmieson, 2003). Individual resilience is not the only factor determining outcomes and environmental influences play an important role in fostering resilience. Resilient behaviors need to be encouraged within a supportive organizational culture including the modeling of appropriate behaviors by senior management. Organizational climate can either foster or hinder employee resilience (Conner & Hoopes, 1997).

Individual vulnerability factors

Vulnerability factors refer to the individual factors that increase the risk of a person experiencing a negative outcome or trauma when exposed to adversity. These personal characteristics may include biological factors (such as

physiological reactivity), historical factors (such as previous exposure to trauma), psychological factors (such as learned behavior, maladaptive coping behaviors etc) and physical health (Paton et al., 2000). While individual vulnerability factors were not the specific focus of this study it is acknowledged that they interact with individual resilience characteristics to influence the overall protective loading that a person may have when facing adversity (Paton et al., 2000).

Resilience

The resilience model in Figure 1 accounts for a range of individual protective factors associated with resilience. These factors have been grouped into five main areas; physical, emotional, cognitive and spiritual resilience and resilient coping styles. Although not exhaustive these five aspects of resilience were the focus of the present study. This grouping of factors is not uncommon, Kumpfer (1999, fig.1., pp. 185) also refers to physical, emotional, cognitive, spiritual, and behavioural domains of resilience.

Physical resilience

A resilient individual is more likely to engage in behaviors that increase energy and performance rather than those that deplete energy and wellbeing. Physical resilience incorporates the management of physical factors such as relaxation, exercise, nutrition and sleep. Lifestyle factors have an important role in both physical and psychological functioning (Mutrie & Faulkner, 2004). The

importance of physical health management is also noted in the model of psychological hardiness that includes hardy health practices such as physical exercise, relaxation, nutrition and health supplements. These skills have been found to boost hardiness and resilience, enabling individuals to better cope with adversity (Maddi & Khoshaba, 2003).

Research has shown that the speed at which the brain is able to recover after negative events may be an important ingredient of resilience. Individual differences in biological reactivity mean that some people recover faster than others after negative events. This adds further support for techniques such as meditation and relaxation to calm the amygdala after negative events have occurred. It is suggested that by minimizing the time spent in negative emotional states and fostering positive emotional states, resilience can be increased (Davidson, 2000).

Physical resilience factors have relevance for workplace stress and performance. For example, the need to take regular breaks is important for avoiding employee fatigue and minimizing workplace accidents (Tucker 2003) and the issue of sleep is relevant for avoiding employee fatigue and burnout (Rosen, Gimotty, Shea & Bellini, 2006). Physical factors interact with the other aspects of resilience outlined below and provide an important buffer against stress.

Emotional resilience

A quality associated with resilience is the ability to manage emotion. One aspect of emotional resilience is the ability to stay calm under pressure. This does not mean that emotions are suppressed, but rather that emotions are managed in such a way that expression is appropriate and does not hinder adaptive coping (Reivich & Shatte, 2002). The link between emotions and health provides some support for the importance of emotional resilience. Negative emotions such as anger, anxiety and stress have been linked to unfavorable health outcomes such as increased levels of cardiovascular disease (Miguel-Tobal & Gonzalez, 2005). The ability to reduce stress by staying calm and regulating emotions can enable healthy levels of wellbeing to be maintained (Davidson, 2000).

Another aspect of emotional resilience is the ability to use positive emotions to minimize the impact of stressful situations. Resilient people appear to do this quite well. This is aligned with the “broaden-and-build” theory (Frederickson, 2001) which holds that positive emotions broaden thinking, increase coping behaviors and are associated with post traumatic growth. This appears to work as a positive spiral where positive emotions may be both the outcome and the generator of further adaptive behavior (Frederickson, Tugade, Waugh & Larkin, 2003). A study of resilience and positive emotions after the September 11 terrorist attacks in the United States found that people who scored high on trait resilience had more positive emotions (such as gratitude, hope and love), experienced them more frequently and experienced negative emotions less

frequently than people with lower resilience. Furthermore, positive emotions were a key component in buffering resilient people from post event depression and a key component in helping resilient people experience post event growth (Frederickson et al., 2003).

More support for the importance of emotional resilience comes from the research on emotional intelligence. Emotional intelligence refers to the ability to be aware of, understand and express ones own emotions appropriately and to be aware of and sensitive to the emotions of others (Law, Song & Wong, 2004). Emotional intelligence skills and abilities may lead to better coping strategies, which in turn lead to stress reduction.

A study of 250 middle level managers in a manufacturing plant in India looked at the relationship between emotional intelligence, trust and organizational support with general health outcomes. The emotional intelligence factor of positive attitude about life was found to be related to increased positive health outcomes and a reduction in negative health outcomes. Training in emotional intelligence skills was recommended as a preventative strategy to improve employee wellbeing and reduce stress (Jain & Sinha, 2005).

Cognitive resilience

Cognitive or mental resilience is the ability to interpret, explain, explore and make sense of challenging situations in a way that leads to positive adjustment.

Resilient individuals tend to have cognitive styles that are adaptive rather than maladaptive (Reivich & Shatte, 2002). Some of the abilities associated with cognitive resilience are optimistic explanatory style, hardiness, sense of coherence and curiosity.

Optimism and Optimistic explanatory style

Dispositional optimism refers to the expectations people have about life. Optimistic people expect good outcomes and pessimistic people expect bad outcomes (Paton et al., 2003). While this sounds rather simplistic, research has shown that people with optimistic expectations generally cope better with life, are healthier and adapt better to adversity while pessimistic people are at higher risk for mental and physical illness. Optimistic people have a tendency to appraise adverse events in a positive light and this may make them more resilient to trauma (Paton et al., 2003).

A key component of optimism is explanatory style. Explanatory style has three aspects the first of which concerns permanence. Events can be seen as either permanent (things like this always happen) or temporary (things like this only happen sometimes). Studies with optimistic children show that those who bounce back from setbacks see bad events as temporary. Optimistic children explain good events as permanent (happening always) whereas pessimistic children see good events as temporary (only happening sometimes) (Seligman,

Reivich, Jayconx, & Gillham, 1995). Secondly, explanations for failure can be specific or global. Global explanations for failure (such as “I am bad at everything”) cause children to give up when they fail in a specific area. Children who explain failure in specific terms (e.g. “I am bad at netball”) may give up in that area but carry on trying in other areas (Seligman et al., 1995). The third component to explanatory style is to do with internal or external explanations. An internal explanatory style means a child blames him or herself for an event or failure. An external explanatory style means a child blames other people. Children with an internal explanatory style are more likely to suffer lower self-esteem than those with an external style (Seligman et al., 1995).

To summarise Seligman’s approach, those who are optimistic have an external, temporary, and specific explanatory style and those who are pessimistic have an internal, stable, and global explanatory style (Peterson, 2000). Explanatory style has implications for mental wellbeing. Research with depressed patients has shown that those with a pessimistic explanatory style (internal, stable, global explanations for bad events) had more severe depressive symptoms. As explanatory style improved during therapy, depressive symptoms were reduced. This supports the suggestion that an optimistic explanatory style is healthier and can lessen the risk of depression (Seligman, Castellon, Cacciola, Schulman, Luborsky, Ollove & Downing, 1988). Other research has shown that explanatory style for negative events is stable over time and may therefore be an ongoing risk factor for mental and physical illness (Burns & Seligman, 1989).

A longitudinal study showed that pessimistic explanatory style was predictive of physical illness two and three decades later (Peterson, Seligman & Vaillant, 1988). An optimistic explanatory style appears to be one of the key ingredients that enable resilient individuals to cope better with life.

Optimism also appears to foster better coping skills and enhance social networks, which further strengthen resilience. Brissette, Scheier and Carver (2002) studied the role of social support and coping in the relationship between optimism and better adjustment for first year college students. Students high in optimism at the beginning of the year showed smaller increases in stress and depression and greater increases in perceived social support. The study also indicated that increases in social support and more use of positive reinterpretation contributed to better adjustment by those students high in optimism.

Hardiness

The personality trait of hardiness is an important resilience resource that enables an individual to face adversity head on with minimal stress outcomes. An analogy of hardiness is a hardy plant that survives the extremes of temperatures and environmental conditions (Bartone, 2003). Three aspects of hardiness are commitment, control and challenge. Commitment is the tendency to be involved with people, contexts and tasks and to seek meaning in what is

happening as opposed to isolating oneself from ones surrounding. Control is an internal belief that a person can influence the outcome or direction of a situation. The third aspect to hardiness is challenge. Challenge is the belief that personal growth comes from frustration or difficulties, which are framed as learning experiences (Maddi, Kahn & Maddi, 1998; Maddi, Khoshaba & Pammenter, 1999).

Research with the military has shown that hardiness is an important resilience trait for minimizing combat stress. Hardiness was shown to have a strong moderating effect on the impacts of combat stress for US soldiers during the Gulf War. Soldiers high in hardiness showed less traumatic stress (Bartone, 2003). Hardiness has also has been identified (along with attachment) as a stress buffer for Israeli prisoner of war and combat veterans increasing their resilience to post-traumatic stress disorder (Zakin, Soloman & Neria, 2003).

Sense of coherence

Sense of coherence refers to a particular cognitive and emotional style of approaching adversity. The construct has three components; comprehensibility, manageability and meaningfulness (Friedman & Higson-Smith, 2003). Comprehensibility is the extent to which stimuli makes sense. When facing adversity, the individual is able to interpret information in a structured, clear and organized fashion. Manageability is the perception of how well one is able to handle the amount of stimuli being presented. Meaningfulness is the extent to

which what is happening makes sense at an emotional level. Research on post-traumatic stress with the South African police services discovered that along with social support all three measures of sense of coherence were negatively associated with post-traumatic stress disorder symptomology and dissociation (Friedman & Higson-Smith, 2003).

Curiosity

The trait of curiosity is gaining more attention under the umbrella of positive psychology. Curiosity is defined as “a positive emotional-motivational system associated with the recognition, pursuit, and self-regulation of novel and challenging opportunities” (Kashdan, Rose & Fincham, 2004, pp. 291). While most human beings have this trait, those individuals who are high in curiosity tend to seek out new information and experiences rather than avoid them and are more motivated to explore opportunities. Individuals high in curiosity are thus better able to cope with challenging situations and are more likely to experience positive or growth outcomes (Kashdan et al., 2004). Curiosity is therefore an important mechanism (but not the only one) involved in the process of individual resilience.

Research on curiosity has expanded to include two aspects, exploration and absorption. The first aspect of curiosity, exploration, refers to an individual's appetite for new and challenging experiences (breadth of curiosity). The second aspect of curiosity, absorption, refers to the level of deep engagement within a

specific area or activity. This is similar to achieving “flow” state and involves self-regulation of attention so as to become deeply absorbed in a particular activity (Kashdan et al., 2004).

Spiritual resilience

Spiritual resilience refers to the ability to find meaning and purpose in the disasters, tragedies, stressors and challenges that life presents. This meaning and purpose can be found through spiritual beliefs, religion, and philosophy or by generally conferring a sense of meaning to what happens. Research indicates that there is a link between spirituality and outcomes of reduced pathology and increased wellbeing during times of adversity. For instance spiritual wellbeing, measured by religious wellbeing and existential wellbeing was related to better psychosocial adjustment to multiple sclerosis and lessened the impact of uncertainty on adjustment (McNulty, Livneh, & Wilson, 2004). Spiritual activities have been found to be a protector against emotional distress and improve quality of life for women diagnosed with HIV and facing disease-related stressors (Sowell, Moneyham, Hennessy, Guillory, Demi, & Seals, 2000).

Meaning in life may also act as a mediator between religion and wellbeing. Meaning in life was found to mediate between religiousness and life satisfaction, self-esteem and optimism. The same study found that meaning in life mediated the relationship between daily religious behaviors and wellbeing (Steger &

Frazier, 2005). Another study of the relationship between meaning in life and positive and negative aspects of wellbeing found that meaning in life had a much stronger relationship to the positive aspects of wellbeing (as measured by psychological wellbeing and positive affect) than to negative aspects of wellbeing (Zika & Chamberlain, 1992). Further support for the importance of meaning in life as a resilience mechanism is provided by the role this component plays in the traits of hardiness (which includes a meaning component) and sense of coherence (which also includes the ability to make sense of what happens) and the link to positive outcomes following trauma (Paton et al., 2003).

Resilience and coping

Coping is defined as the thoughts and behaviors that people engage in to manage situations that are perceived as stressful (Folkman & Moskowitz, 2004). The research and theory on coping and coping styles are abundant. Folkman & Moskowitz (2004) note that current literature appears to be converging on a four-way classification of coping: problem-focused, emotion-focused, social coping and meaning-focused coping. Problem-focused involves addressing the problem through taking action, planning or restraint. Emotion-focused coping refers to strategies that avoid dealing with the problem such as denial, mental disengagement or turning to drugs. Social coping involves seeking social support to help with the problem. Meaning-focused coping involves strategies such as positive reinterpretation, humor, and acceptance. The latter

classification (in line with positive psychology movement) incorporates resilient strategies that involve finding meaning in what happens and re-interpreting events in terms of their potential benefits. This acknowledges the presence of positive emotions in coping with stressors (Folkman & Moskowitz, 2004).

Resilient coping styles include problem-focused styles such as active coping, planning, suppression of competing activities and restraint coping (Carver, Weintraub & Scheier, 1989). Active coping and planning are strategies that involve focusing on the problem and on ways in which it can be directly addressed. Active coping involves taking direct step-by-step action designed to minimize or eliminate the stressor and its impact. Planning involves thinking about what steps to take when dealing with a problem, including coming up with action strategies. Suppression of competing activities means minimizing the time given to activities that distract from dealing with the stressor and putting other projects aside to focus on the problem at hand. This is adaptive because it means full attention is given to facing the stressor. Restraint is waiting for the right moment to take appropriate action rather than acting too soon and is adaptive because it deals with the stressor but in a timely manner, avoiding premature action (Carver et al., 1989).

Seeking and making use of social support are considered to be resilient coping styles. Carver et al., (1989) identify two forms of social support: social support for instrumental reasons and social support for emotional reasons. Seeking instrumental social support means seeking out advice or information that may be

helpful in dealing with a stressor and is considered adaptive because the focus is on resolving the problem. Seeking emotional social support means seeking help for moral support or sympathy. This is usually considered adaptive as emotional reassurance can facilitate problem-focused coping (Carver et al., 1989).

Positive reinterpretation and growth is also associated with resilience. Positive reinterpretation and growth involves re-framing the problem or event in a positive way encouraging positive feelings and a sense of meaning in what happens. This is resilient because it facilitates positive action and leads to better psychological adjustment through seeing the benefits of the situation. This coping style is associated with lower stress outcomes (Brissette et al., 2002; Carver et al., 1989). Another style that is considered resilient is that of acceptance. Acceptance involves accepting the reality of a stressful situation. This style is adaptive especially when the stressor is something that cannot be easily changed and needs to be adapted to (Carver et al., 1989). One quality of resilient individuals is their ability to face the reality of their situation (Reivich & Shatte, 2002).

The coping styles of venting of emotions, behavioral disengagement, mental disengagement and denial are described as maladaptive coping styles (Carver et al., 1989). Venting of emotions involves focusing on the distressing event and venting feelings about it. While sometimes considered a helpful coping style for a short period of time in situations of loss, generally this is classified as a

maladaptive or less resilient coping style because staying in a negative emotional state for too long can lead to dysfunction and does not actively deal with the problem. Denial involves refusing to believe that a problem exists or acting as if the problem is not real and is considered maladaptive because denying the reality of a situation does not facilitate coping and may make the situation worse. Behavioral disengagement involves reducing efforts to cope with a stressor or giving up trying. This is less resilient as it is associated with helplessness and can lead to pathological states. Mental disengagement involves mentally distracting oneself with competing activities that disengage oneself from the problem, this impedes active coping (Carver et al., 1989).

An important point to make about coping is the consideration of context. While problem-focused, social coping and meaning-focused coping are generally considered resilient styles, it is the context rather than the classification per se that determines whether coping style is effective or ineffective (Folkman & Moskowitz, 2004). For example, when preparing for an exam, action focused coping (such as studying) is considered effective coping, however, after the exam, emotion-focused coping (distancing oneself) while waiting for the results is considered more effective than taking direct action (Folkman & Lazaus, 1984). Another example is when one has just experienced bereavement. Emotion-focused coping and support is considered effective coping in the immediate stages but at a later stage action focused or instrumental coping (taking action to move on with life) is considered more adaptive (Folkman & Moskowitz, 2004).

Personality

Research linking the Big Five personality traits to stress and growth outcomes suggests that resilience is influenced by personality. The Big Five personality dimensions are Neuroticism, Extraversion, Openness to experience, Agreeableness and Conscientiousness. Neuroticism refers to the degree to which a person experiences negative states such as anxiety and depression. Extraversion refers to the tendency to be positive, assertive, communicative and sociable. Openness to experience includes a tendency to be creative, flexible and curious as well as experiencing emotions more intensely. Agreeableness refers to the degree to which an individual gets on well with people. Conscientiousness is the tendency to be reliable, organized and self-disciplined in the pursuit of goals (Moran & Shakespeare-Finch, 2003; Penley & Tomaka, 2002).

Some direct effects between personality traits and outcomes have been found. For instance people high in neuroticism have a tendency to experience more negative affect and this trait is the most common predictor of post-traumatic stress, while those who are low in neuroticism are calm, composed and hardy (Moran & Shakespeare-Finch, 2003). There have also been associations between high levels extraversion, openness to experience and conscientiousness and positive growth outcomes following traumatic events. A study of optimism, personality and coping during the Kosovo crisis found that resilience was related to higher optimism, extraversion, openness to experience,

conscientiousness, control coping and low neuroticism (Riulli, Savicki & Cepani, 2002). Another study of the relationship between the big five personality factors, emotional responses and coping with acute stress found that extraversion was positively associated with positive affect (happiness, pride and self-satisfaction) and negatively correlated with stress and fear (Penley & Tomaka, 2002).

Most of the effects of personality on stress and wellbeing outcomes appear to be mediated by coping. Those high in extraversion tend to seek social support and use positive appraisals, both of which minimize stress outcomes and are more likely to result in positive outcomes. People who are high in neuroticism tend to use avoidance or emotion-focused coping which increase the likelihood of negative outcomes. Those high in agreeableness tend to seek out social support and are less likely to use emotion-focused coping (Moran & Shakespeare-Finch, 2003). Openness to experience has been found to positively correlate with problem-focused coping under acute stress and those high in conscientiousness tend to use positive problem-focused coping (Penley & Tomaka, 2002).

Outcomes

A wide range of resilience factors and coping styles may be associated with reductions in stress and negative health outcomes and also with increases in psychological and physical wellbeing. Resilience is also associated with reduced

risk for post-traumatic stress disorder and increased likelihood of post-traumatic growth outcomes (Paton et al., 2003; Tedeschi & Kilmer, 2005).

Post-traumatic growth is characterized by positive outcomes that occur after a traumatic event and often involves a transformation in how the individual views the world (Tedeschi & Kilmer, 2005). The focus of the present research is on outcomes associated with stress and wellbeing in the context of organizational change rather than traumatic events and post-traumatic growth.

In research on organizational change, individuals experiencing stress have reported a range of negative outcomes, including psychological, physical or vocational strain (Kalimo et al., 2003; Mak & Mueller, 2000). Measures of stress symptoms may include somatic distress, general distress and performance difficulties. Somatic distress refers to the physical signs of stress such as headaches and tiredness. General distress refers to emotional stress, which may include feeling unhappy or misunderstood. Performance difficulties may include concentration problems and a need to repeatedly check ones work (Green, Walkey, & McCormick, 1988).

Subjective wellbeing is about how individuals rate their quality of life and this rating can be based on emotional wellbeing and cognitive wellbeing (Pavot & Diener, 1993). Experiencing subjective wellbeing is seen as being indicative of a healthy well-adjusted individual and experiencing high subjective wellbeing

under situations of adversity and stress is considered evidence of a resilient individual (Masten, 2001).

Emotional wellbeing is often described as the experience of positive emotions such as happiness, enthusiasm or joy and the absence of negative emotions such as fear and anger. The absence of negative emotions does not necessarily indicate high levels of positive emotions and an individual can experience high levels of both negative and positive affect simultaneously (Crawford & Henry, 2004). Subjective wellbeing comprises both low levels of negative affect and high levels of positive affect.

Cognitive wellbeing or life satisfaction refers to the judgment that a person makes about his or her own life in terms of his or her own expectations. It is a global assessment by an individual and is indicative of what he or she considers to be a good life (Pavot & Diener, 1993).

The next chapter discusses how individual resilience can be fostered and strategies for resilience training interventions.

Chapter 4: Building resilience

Research has identified many mechanisms involved in the process of resilience. A considerable amount of research on how to build resilience has come from studies with at risk populations, including children, the elderly and emergency workers. Intervention strategies focus on building strengths or protective factors as well as minimising risk (Ford, 2005; Mathews, 2005; Paton et al., 2003). For example, staying mentally, physically and socially active are important resilience factors for the elderly, therefore interventions for building resilience may include a range of lifestyle and practical coping skills, cognitive behavioral training and building wider social support networks (Ford, 2005). Resilience interventions with children include focusing on internal and external protective factors and may include teaching problem-solving and social skills as well as targeting family support, peer relationships and community activities (Mathews, 2005). Intervention strategies to build resilience in emergency professions may target a range of variables, including individual factors such as hardiness, sense of coherence, and coping styles as well as external influences such as team dynamics, organizational and environmental resilience factors (Paton et al., 2003).

Interventions for building employee resilience and reducing stress in the workplace can fall into three main categories: primary, secondary or tertiary. Interventions at the primary level target organizational and environmental factors

with the intention of minimizing or eliminating potential sources of stress. Interventions at the secondary level focus on individuals and how to improve their ability to cope with stressors. Tertiary interventions are more supportive than preventative in that they are designed to help employees who are already suffering from stress return to prior levels of functioning (Dewe & O'Driscoll, 2002).

Training individuals to be more resilient is a secondary level intervention. At this level of intervention employees are trained to manage their stress levels and take responsibility for their own wellbeing. The stressors in the job environment remain unchanged and the employee is taught to change their reaction or behavior to the stressor or their perception of the stressor. Because the source of the stress is not targeted, there is a degree of uncertainty as to how effective secondary interventions are in the long-term (Beehr & O'Driscoll, 2002). The aim of the present study was to evaluate the effectiveness of a resilience training programme, and therefore the literature relating to the ways in which resilience can be built and the outcomes of resilience interventions is reviewed below.

A meta-analysis study of 48 experimental interventions for work-related stress found moderate support for the effectiveness of cognitive-behavioral interventions at the individual level, and a small effect for relaxation techniques at the individual level. While there was non-significant effect for organizational focused interventions, overall the study concluded that stress management interventions are successful (van der Klink, Blonk, Schene, & van Dijk, 2001).

A study that examined the relationship between job-related stress and risk factors for cardiovascular disease (CVD) found that both personal resilience and job resilience had an impact on psychosomatic strain (Ferris, Sinclair & Kline, 2005). Personal resilience was defined in terms of how well an individual managed their energy (nutrition, exercise, relaxation, relationships and attitude to change) and job resilience was defined in terms of job related factors (such as supervisor relationships, company support, job security). Low levels of both job and personal resilience were associated with increased psychosomatic strain (as measured by sleep, energy, concentration, emotional health and perceived stress). The authors suggest that individuals need to take responsibility for managing their lifestyle and relationships and the organization needs to play its part in managing reasonable job demands and support to reduce strain. In other words it is a joint responsibility to reduce stress and potential risk for CVD (Ferris et al., 2005).

Interventions that build employee resilience have relevance for both reducing employee stress and for change management. Drawing on the research with resilient children and applying it to workplace environments, Conner and Hoopes (1997) identify five important characteristics that contribute to the process of resilience and thus to the process of successfully navigating change. The five characteristics are being positive, focused, flexible, organized and proactive.

- Being positive is defined as seeing the opportunities in new situations and having confidence in ones ability to cope with the unknown.
- Being focused means that an individual keeps a clear picture of what needs to be done and is able to focus on the important priorities without getting side-tracked.
- Flexibility enables individuals to go with the flow of change and draw on resources as needed. Keeping a flexible approach helps individuals overcome obstacles.
- Being organized includes the ability to apply structure and order to ambiguity in a systematic manner. This avoids wasting unnecessary resources and helps to make sense of information that might otherwise confuse.
- Being proactive means tackling change head on rather than avoiding it. This involves taking an exploratory approach and taking risks where necessary (Conner & Hoopes, 1997).

The five characteristics are equally relevant for building resilience at the team and organizational level as well as the individual level. Conner and Hoopes (1997) suggest that employee resilience can be improved by the training, reinforcing and coaching of existing employees in the above characteristics and by careful selection of new employees. Employee resilience can also be fostered by using positive reinforcement to encourage resilient employee behaviors, giving constructive feedback, expanding decision making boundaries,

addressing organizational barriers to resilience and training employees in the development of bricolage skills. Bricolage is a resilient skill that involves finding creative solutions to problems with minimal resources (Mallak, 1998).

Physical resilience

A range of physical resilience practices can be employed to increase physical resilience such as relaxation, meditation, exercise and stress management techniques. Strategies from health and sports psychology can be used to build more physically resilient workers. These may include nutritional counseling, exercise programmes, stress management and smoking cessation programmes (Lloyd & Foster, 2006).

Support for the effectiveness of mindfulness-based stress reduction meditation (including relaxation, meditation, biofeedback and yoga) in building resilience comes from numerous studies with physically ill patients (Astin, Shapiro, Eisenberg & Forsys, 2003). These techniques can also be used to build resilience in healthy individuals. A mindfulness meditation intervention was implemented with a group of healthy employees over a period of 8 weeks producing demonstrable effects on brain activity and immune function. Employees who completed the programme showed increases in both positive affect and immunity (Davidson, Kabat-Zinn, Schumacher, Rosenkranz, Muller, Santorelli, Urbanowski et al., 2003).

Physical exercise has been identified as a strong protective factor against potential health risks such as high blood pressure, hypertension and heart disease. Physical activity is also a key ingredient for improving psychological wellbeing and has been linked to improvements of mental wellbeing for those with mental illness and the general public (Mutrie & Faulkner, 2004). In a randomized controlled trial of 134 patients with stable ischemic heart disease (IHD) an exercise and stress-management training programme was found to reduce general distress and depression. The training also improved physical functioning as measured by markers of cardiovascular risk (Blumenthal, Sherwood, Babyak, Watkins, Waugh, Georgiades, Bacon et al., 2005). A study with patients having health examinations through the Cooper Health Clinic was conducted by the Aerobics Center Longitudinal Study (ACLS). The researchers examined the relationship between level of aerobic fitness level and rates of depression and emotional wellbeing. Higher fitness levels were associated with lower depressive symptoms and higher emotional wellbeing (Galper, Trivedi, Madhukar, Barlow, Dunn & Kampert , 2006).

In other research a lifestyles intervention programme was introduced with hospital nurses to promote healthy lifestyle behaviors. Interventions included discouraging smoking and encouraging exercise participation. The intervention did not reduce smoking levels but did result in a significant increase in physical exercise among nurses. Physical exercise was encouraged by creating and

promoting marked walking routes around the work grounds (Hope, Kelleher & O'Conner, 1998).

Interventions designed to increase healthy lifestyle behaviors have been linked to outcomes such as improved physical and mental health. However while organizational health and wellbeing programmes are often promoted they are not always formally evaluated (Beehr & O'Driscoll, 2002).

Emotional resilience

Learning to manage ones emotions effectively is a prime area for building emotional resilience. Given the relationship between positive emotions and positive health and mental wellbeing outcomes, a powerful way to build emotional resilience centers on the fostering of positive emotions and minimizing the impact of negative emotions (Frederickson, 2001). Frederickson (2001) suggests that positive emotions can increase resilience. This is part of the broaden-and-build theory of positive emotions that holds that positive emotions expand cognitive awareness and coping skills. Over time, positive emotions are thought to improve physical health, social networks, cognitive awareness and other resources such as optimism. It is suggested that this creates an upward spiral (as opposed to the downward spiral generated by negative emotions) towards improved wellbeing. Thus, positive emotions will broaden thinking and coping which increases wellbeing (Frederickson, 2001).

A popular approach for building emotional resilience in the workplace involves training in emotional competencies, which are thought to be associated with success and adaptation (Antoniou, 2005). An example is Daniel Goleman's (2000) emotional intelligence framework, which has four components and 20 emotional and social competencies. The four components include self-awareness, self-management, social awareness and relationship management. Self-awareness is the ability of an individual to be aware of his or her emotions and abilities. Self-management refers to an individual's ability to regulate and control those emotions. Social awareness refers to an individual's ability to perceive the emotions of others and interact appropriately. Relationship management refers to the ability of an individual to be aware of social situations and manage relationships (Antoniou, 2005). While there is still a lack of strong empirical research on the emotional intelligence competencies and the link between emotional intelligence and worker wellbeing and performance, there is growing support for the link between emotional intelligence, emotional resilience and employee coping strategies (Zeidner, 2005).

Cognitive resilience

Some of the abilities associated with cognitive resilience include explanatory style, coping and hardiness.

As mentioned previously, hardiness training has value for teaching managers to make sense out of stressful experiences and has proven successful in reducing stress (Bartone, 2003). Hardiness training was also found to be more effective than other stress reduction strategies such as relaxation and passive listening for increasing hardiness, and wellbeing and reducing strain (Maddi, Khan & Maddi, 1998).

A range of cognitive strategies can be used to build employee resilience. These may include teaching individuals to be more aware of their explanatory style when they are faced with adversity and to encourage the use of healthier explanatory styles for dealing with workplace stress and change, increasing the likelihood of more favorable outcomes for the individual (Reivich & Shatte, 2002). Training can also involve teaching employees to become more aware of how their beliefs about specific situations may influence their feelings and behaviors. A technique called ABC analysis is used where an individual assesses an event (A=Adversity), and the immediate belief they had about what happened (B=Belief) and the resulting emotional, behavioral, or physical consequences, (C-Consequences). Individuals are taught to challenge beliefs that lead to maladaptive responses and learn to assess and respond to stressful situations more objectively, increasing the likelihood of effective problem solving and positive emotional outcomes (Reivich & Shatte, 2002).

Spiritual resilience

The area of enhancing spiritual resilience is a little more challenging. Clearly organizations cannot implement programs to make their employees more religious or spiritual. However organizations can implement interventions (such as hardiness training) that encourage individuals to find meaning and purpose in adversity, thus increasing the likelihood of positive experiences and can implement training that encourages an exploration of spiritual or quiet contemplative practices such as meditation and relaxation (Davidson et al., 2003).

A workplace intervention that focuses on building meaning in life and spiritual wellbeing has shown promising results in terms of reducing burnout rates in a number of employees. The Burnout Prevention Programme uses a transpersonal approach that includes psychosynthesis, a style of intervention that acknowledges the spiritual aspects of ones self and strengthens ones meaning and sense of purpose in life (Van Dierendonk, Garsen & Visser, 2005). The participants in the program showed a decrease in exhaustion, increases in professional efficacy, increases in happiness, repair of negative affectivity and strengthened purpose and meaning in life (Van Dierendonk et al., 2005).

The concept of spiritual resilience is gaining more recognition. Writers such as Ken Wilber (2000) take an integral approach that pulls in knowledge from many disciplines including physics, biology, theology and mysticism (life, mind, soul and spirit). This approach acknowledges the role of spirit in human growth. Richardson (2002) suggests that a new wave of resilience theory is emerging that embraces knowledge from many different disciplines, all of which have the common paradigm that human beings have energy or spiritual resilience. He suggests that the energy or force that carries a person towards self-actualization may be called quanta, chi, spirit or God (Richardson, 2002). Richardson suggests that the potential of multiple pathways to resilience has tremendous value for therapy and interventions of the future. The knowledge that comes from a variety of disciplines can be integrated and skills such as meditation, yoga, tai chi and prayer can be used to build resilience (Richardson, 2002).

The resilience training in the current study takes an integral approach and incorporates some of the physical, emotional, cognitive and spiritual resilience strategies previously discussed. The next chapter gives an overview of the current study.

Chapter 5: The current study

This study focuses on the impact of resilience training on employee stress and wellbeing levels during a period of organizational restructuring.

The participating company

The participating company in this study was Carter Holt Harvey (CHH) Woodproducts. At the time of this study, CHH Woodproducts was predominantly a timber and plywood manufacturing company with mills in Nelson, Putaruru, Tokoroa, Rotorua and Kopu. The 33 employees who took part in this study were head office employees based at Manukau, Auckland. The areas of the business that the participants worked in included the Supply Chain area (planning, demand, business process improvement, export, customer services), Sales, Marketing and Finance.

The researcher was an employee of CHH Woodproducts at the commencement of this research, working for the Supply Chain team as a Supply Chain Analyst. The researcher was not directly involved in the organizational change decision-making process. The researcher coordinated the times and venues for the resilience training sessions and provided support for the practice of resilience behaviours in the workplace but did not deliver the resilience training.

The change process

During 2003 the following changes occurred that were relevant to the employees taking part in this study. Early in 2003, under a new chief executive, the two Carter Holt Harvey businesses Ecopine and Innovision were combined into one business (later to be named Woodproducts). Changes in management structure took place. After management consultation, the newly formed business was divided into four separate business units.

In June 2003, it was announced by senior management that the central Supply Chain team would be restructured to align roles with the four business units. The debate on how this would be achieved took approximately two months and around August the new structure and some redundancies were announced. The new chief executive also resigned during this period.

In late 2003, other impacting factors included the appointment of a new chief executive, a Commerce Commission enquiry into the way timber was being marketed and the closure of the Tokoroa Sawmill. External consultants were brought in to conduct a review of the business with a view to further restructuring.

Resilience intervention

CHH Woodproducts introduced a resilience training programme in 2002 with the aim of reducing employee stress and improving wellbeing. The resilience training was re-introduced in 2003 to reduce employee stress and improve wellbeing.

The resilience training

The resilience training in 2002 and 2003 was designed and delivered by Dr. Sven Hansen of the Resilience Institute in Auckland. The 2003 training included modules on physical, emotional, cognitive and spiritual resilience. Five in-depth training sessions were held over a period of 6 months. Participants also had behavioral resilience goals to work on in between sessions and were paired with a buddy (at the first session) to provide motivational support with resilience goals throughout the training year. The 2002 resilience training also covered these five modules.

Module 1: Stress Mastery

This module concentrated on stress management. This included introducing participants to the pressure performance curve, the stress response, the dysfunctional physical and mental impact of stress, and the benefits of relaxation

and stress management techniques. Participants were taught diaphragmatic breathing techniques, relaxation techniques and how to identify stress responses. Biofeedback was also used to help participants master flow state.

Module 2: Physical Vitality

This module covered the role of lifestyle factors in building resilience. Participants all had health checks prior to this session to identify any health concerns that needed attention. The module covered an in-depth look at the way lifestyle factors such as exercise, nutrition, sleep and relaxation can lower health risk and build protective strength against many modern illnesses. The emphasis was on taking control of health and wellbeing. Techniques for managing performance and minimizing fatigue by managing daily lifestyle habits were covered in depth. Module 1 and 2 focused on physical resilience.

Module 3: Emotional Competence

This included an introduction to the human brain, emotion, and the role of the amygdala in emotional processing. The session included work on calming and controlling emotions for appropriate expression. This session also worked through emotional intelligence competencies based on the framework presented by Goleman (2000). Participants were introduced to the cluster of emotional competencies associated with self-awareness, self-management, empathy, social awareness, social skills influence and leadership.

Module 4: Cognitive Discipline

The module on cognitive discipline started with a basic introduction into the anatomy of the human brain and predominantly focused on how to understand and avoid maladaptive thinking habits. The training involved techniques from Adaptive Learning Systems (Reivich & Shatte, 2002). These techniques included addressing explanatory style and also training in the ABC technique (A=Adversity, B=Belief, C=Consequences) to help participants identify, challenge and change negative beliefs.

Module 5: Spirit in Action

The fifth module revised some of the principles from earlier sessions and encouraged participants to explore the spiritual aspect of resilience. This module presented a range of different perspectives on life and levels of consciousness.

Expected outcomes

It was expected that the resilience training would minimize stress levels (as measured by somatic distress, general distress, performance difficulties and negative affect) and increase levels of wellbeing (as measured by positive affect and life satisfaction).

This study also looked at styles of coping in relation to the resilience training. It was expected that trained employees would show higher levels of resilient coping styles and lower levels of non-resilient coping styles than untrained employees. A measure of curiosity was introduced in this study to examine how curiosity (as a potential resilience mechanism) related to the level of resilience training and positive outcomes. It was expected that employees who were exposed to resilience training would show increased levels of curiosity.

The impact of the restructure on employee wellbeing was also assessed.

For the purposes of this research the employees were grouped according to their level of exposure to resilience training. Group 1 had received resilience training in 2002 and 2003; Group 2 received resilience training in 2003; and Group 3, the control group, received no resilience training during this study.

A number of hypotheses were proposed and tested to examine the effects of the resilience training.

Hypotheses

Time 1

By the first data collection phase of the study in April 2003 one group of employees had been trained. This group had received the modules on Stress mastery, Physical vitality, Emotional competence, Cognitive discipline and Spirit in Action in 2002. Differences were anticipated between the trained group and the two untrained groups on negative and positive outcome measures. The measure of restructure impact was expected to correlate negatively with positive outcomes. The following hypotheses were proposed.

Hypothesis 1a: At Time 1 Group 1 (Trained 2002) will show lower scores on performance difficulties, general feelings of distress, somatic distress and negative affect than the untrained Groups 2 and 3.

Hypothesis 1b: At Time 1, Group 1 (Trained 2002) will show higher wellbeing as measured by higher scores for life satisfaction and positive affect than Groups 2 and 3.

Hypothesis 1c: At Time 1, the restructure impact ratings will correlate positively with stress as measured by performance difficulties, general

feelings of distress, somatic distress and negative affect and correlate negatively with wellbeing as measured by life satisfaction and positive affect.

Time 2

At Time 2 (August 2003) Group 1 had received further training (in addition to that received before Time 1) in Physical resilience, Health and vitality and Emotional resilience. Group 2 also received this training but had not yet received training in cognitive or spiritual resilience while Group 3, the control group, had not received resilience training. The focus of the study at Time 2 was on the measures of resilience in terms of curiosity and on resilient coping styles. The following hypotheses were proposed.

Hypothesis 2a: At Time 2, Group 1 (Trained 2002) will show more use of the resilient coping styles of active coping, planning, suppression of competing activities, restraint coping, seeking social support (instrumental and emotional), positive reinterpretation and growth and acceptance than Group 2 (Partial training) or Group 3 (No training).

Hypothesis 2b: At Time 2, Group 1 (Trained 2002) will show less use of the non-resilient styles of venting of emotions, denial, behavioral disengagement and mental disengagement than Group 2 (Partial training) or Group 3 (No training).

Hypothesis 2c: At Time 2, Group 1 (Trained 2002) will show higher scores on curiosity as measured by scores on exploration and absorption than Group 2 (Partial training) or Group 3 (No training).

Time 3

By Time 3, the final data collection phase in November 2003, both Groups 1 and 2 had received training in all modules while the control group, Group 3, had not received training. It was anticipated that the groups which had received training would show lower levels of stress, better wellbeing and increases in the variables related to resilience: curiosity and coping. The following hypotheses were proposed.

Hypothesis 3a: At Time 3, Group 1 (Trained 2002 & 2003) will show less stress than Group 2 (Trained 2003) who will show less stress than Group 3 (No training) as indicated by lower scores on performance difficulties, general feelings of distress, somatic distress and negative affect.

Hypothesis 3b: At Time 3, Group 1 (Trained 2002 & 2003) will show higher scores for life satisfaction and positive affect than Group 2 (Trained 2003) who will in turn show higher scores on life satisfaction and positive affect than Group 3 (No Training).

Hypothesis 3c: At Time 3, restructure impact will correlate positively with stress as measured by performance difficulties, general feelings of distress, somatic distress and negative affect and correlate negatively with wellbeing as measured by life satisfaction and positive affect.

Hypothesis 3d: At Time 3, Group 1 (Trained 2002 & 2003) will show more use of resilient coping styles than Group 2 (Trained 2003) who will show more use of resilient coping styles than Group 3 (No Training) as indicated by higher scores on active coping, planning, suppression of competing activities, restraint coping, instrumental and emotional social support, positive reinterpretation and growth and acceptance.

Hypothesis 3e: At Time 3, Group 1 (Trained 2002 & 2003) will show less non-resilient coping than Group 2 (Trained 2003) who in turn will show less non-resilient coping than Group 3 (No Training) as indicated by lower scores on venting emotions, denial, behavioral disengagement and mental disengagement.

Hypothesis 3f: At Time 3, Group 1 (Trained 2002 & 2003) will show more curiosity than Group 2 (Trained 2003) who will show more curiosity than Group 3 (No Training) as indicated by higher scores on exploration and absorption.

At time 3 it was also possible to compare pre-training and post-training scores for the two trained groups. The following hypotheses were proposed.

Hypothesis 3g: At Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) will show lower symptoms of stress compared to Time 1 as indicated by lower scores on performance difficulties, general feelings of distress, somatic distress and negative affect.

Hypothesis 3h: At Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) will show improved levels of wellbeing at Time 3 compared to Time 1 as indicated by higher scores on life satisfaction and positive affect.

Hypothesis 3i: At Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) will show improved levels of resilient coping compared to Time 2 as indicated by higher scores on active coping, planning, suppression of competing activities, restraint coping, seeking social support for instrumental reasons, seeking social support for emotional reasons, positive reinterpretation and growth and acceptance.

Hypothesis 3j: At Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) will demonstrate lower levels of non-resilient coping compared to Time 2 as indicated by lower scores on venting emotions, denial, behavioral disengagement and mental disengagement.

Hypothesis 3k: At Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) will show more curiosity than at Time 2 as indicated by higher scores on exploration and absorption.

Chapter 6: Method

The study was a lagged cohort design. Questionnaires were administered to three groups of employees at three times during 2003 (see Appendices A, B and C). The groups were at different stages of training at these times. Group 1 had received resilience training in 2002 and 2003; Group 2 received resilience training in 2003; and Group 3, the control group, received no resilience training during this study. A baseline measure of stress and wellbeing was collected for all groups before the start of the 2003 resilience training (Time 1, April) and repeated after the resilience training (Time 3, November). Data was also collected on the resilience variables of curiosity and coping at Time 2 (August) and repeated at post training (Time 3, November).

The questionnaires also collected background information, which included demographic data at Time 1, and feedback on the restructure impact at Times 1, 2 and 3. The 2003 restructuring was consistent across all groups at Time 1 (April) however Time 2 (August) involved continued restructuring for the resilience trained groups only. Time 3 (November) involved more change related issues primarily for the resilience trained groups.

Human ethics approval was granted for the study from the Massey University Human Ethics committee (MUAHEC 03/014).

Participants

The participants in this study were employees of the Carter Holt Harvey business Woodproducts and were selected from the Supply Chain, Finance, Sales and Marketing teams based at head office Manukau, Auckland. Only the members of the Woodproducts Supply Chain team received resilience training. The other group acted as controls.

The participants comprised three groups.

- Group 1 received resilience training in 2002 and again in 2003.
- Group 2 received resilience training in 2003 only.
- Group 3, the control group, did not receive resilience training during the timeframe of this study.

Of the 50 employees invited to take part in the research, a total of 33 employees agreed to participate. Of those 33 employees, 12 met the criteria for Group 1 (resilience trained 2002 and 2003), 12 met the criteria for Group 2 (resilience trained 2003 only) and 9 employees comprised Group 3 (not trained). Group 1 and 2 were members of the Supply Chain team and Group 3 comprised

members of the Sales, Marketing and Finance teams. Not all participants answered all questions so there is some data missing from the following analyses. The response rate at Time 2 was lower than at the other two times, consisting of 8 employees for Group 1, 6 for Group 2 and 6 for Group 3. A possible reason for the drop in participants at this time may have been the restructuring during August which affected Group 1 and 2.

Demographic profile

The gender split for the groups is detailed below in Table 1. Group 1 had a higher percentage of men compared to women (83% male to 17% female).

Table 1. Gender Distribution by Group

Gender	Group 1	Group 2	Group 3
Male	10	6	5
Female	2	5	4

The age range for Groups 1 & 2 was fairly evenly distributed between twenty and fifty. The majority of Group 2 was aged under 40 whereas the range for Group 1 was spread more evenly across all age brackets. Group 3 respondent's ages were either in the 31-40 or over 51 age brackets (see Table 2).

Table 2. Age by Group

Age	0-30	31-40	41-50	51+
Group 1	4	2	3	2
Group 2	5	5	1	0
Group 3	1	4	1	3

The majority of respondents identified themselves as NZ European or New Zealander as shown in Table 3. Some participants identified themselves with more than one ethnic group.

Table 3. Ethnicity by Group

Ethnicity	Group 1	Group 2	Group 3
NZ European/ Pakeha	6	6	8
New Zealander / Kiwi	3	3	1
Maori	3	2	0
Chinese	1	0	0
Pacific Islander	0	1	0

While most of the participants were in non-managerial roles (only a quarter of the employees were in management positions at the time of the April testing) the proportion did vary between groups as illustrated in Table 4. Five of the control group had managerial roles at the time of testing and four were in non-managerial roles.

Table 4. Management Position by Group

Role	Group 1	Group 2	Group 3
Manager	4	2	5
Non-management	8	9	4

Procedure

The research commenced in 2003. Data was collected in April 2003 (prior to commencement of the 2003 resilience training), August 2003 and November 2003.

Time 1 - April

Stress and wellbeing data was collected for all three groups in April 2003 prior to the start of the 2003 training. At this point in time only Group 1 had received any

resilience training. This was treated as the baseline measure of stress and wellbeing.

Prior to the first 2003 resilience session, all of the Supply Chain team received an introductory email detailing the intended research and inviting them to participate. It was stressed that participation was voluntary and results would be kept confidential. Questionnaires were then delivered to each person's in-tray for them to fill in and return to the researcher prior to their first resilience training session. The questionnaires were marked with an individual code (known only to the researcher) to enable identification of the participant's pre and post training scores while respecting confidentiality. The questionnaire drop took place one day prior to the start of the resilience training. Employees from other departments (who were not taking part in the resilience training) were also approached in the same manner. The April assessment included measures of stress and wellbeing, the restructure impact and the demographic profile.

Time 2 - August.

Resilience was measured in August 2003 for all 3 groups. At this point in time Group 1 had received further training in physical resilience, health and vitality and emotional resilience. Group 2 also received this training but had not yet received training in cognitive or spiritual resilience. The August measures were administered by way of an introductory email followed by a questionnaire drop. Questionnaires were returned to the researcher's in-tray. The August

questionnaire included measures of the resilience variables of curiosity and coping for all three groups and a measure of restructure impact for groups 1 and 2 (Group 3 was not undergoing restructuring at this time).

Time 3 – November

Stress, well-being and resilience data were collected for all three groups in November 2003. At this point in time, Groups 1 and 2 had received all five resilience modules (Group 1 for the second time) and Group 3 had not received any resilience training. The last resilience module was completed in September, so the November data was collected two months after training completion.

This final questionnaire included the same stress and wellbeing measures as April, the resilience measures used in August and a repeat of the restructure/current structure questionnaire to assess the continued impact on participants. The procedure consisted of a reminder email and a questionnaire/in-tray drop with questionnaires to be returned either to the researcher in person or a drop box. Participants were given a week to return the questionnaire.

In November, qualitative interviews (Appendix D) were held with four managers giving the opportunity for in-depth feedback on the organizational environment at final testing and during the year. These interviews were suggested by one of the

managers as a way of gaining further insight into the environment in which the research was being conducted. The interviews were conducted on site on a one-to-one basis, using an open-ended questionnaire format. The four managers interviewed were from the resilience trained groups 1 and 2.

Measures

Stress

Stress was measured using the 21-item Hopkins Symptom Checklist (HSCL21) (Green, Walkey, & McCormick 1988). The HSCL21 has good reliability, good concurrent and construct validity with the added advantage of being a relatively short measure thus minimizing the demand placed on the participants. The HSCL-21 has also been shown to be sensitive to change in stress levels over time (Deane, Leathem & Spicer, 1992).

The HSCL21 has a three-factor structure giving three sub-scales of seven items each; General Feelings of Distress (GFD), Somatic Distress (SD) and Performance Difficulties (PD). An example item of GFD is "Blaming yourself for things", an example item of SD is "Either a feeling of numbness or tingling in your body" and an example item of PD is "Having to do things slowly, to ensure that you're doing them properly" (Deane, Leathem & Spicer, 1992). Participants were asked to indicate how much of each symptom they were experiencing.

Answers were on a 4-point scale where 1 = *Not at all* and 4 = *Extremely*. For the present study items were averaged to give a mean score for each group.

Reliability coefficients for the HSCL scales were as follows. Time 1 (April), performance difficulties $\alpha = 0.73$, general feelings of distress $\alpha = 0.82$ and somatic distress scale $\alpha = 0.71$. For the somatic distress scale, Question 18 (a lump in your throat) was dropped from the scale as for this sample it showed zero variance. Time 3 (November), performance difficulties $\alpha = 0.74$; general feelings of distress scale $\alpha = 0.85$ and the somatic distress $\alpha = 0.57$. Question 18 was not dropped from the November testing, however the reliability coefficient for the somatic distress scale as a whole was very low.

Wellbeing

Subjective wellbeing has two general aspects, an affective and a cognitive aspect. The Positive and Negative Affect Scale (PANAS) was used to assess affective wellbeing and the Satisfaction with Life Scale (SWLS) was used to measure the cognitive appraisal of wellbeing. Having the two measures is important as sometimes people may suppress or deny negative feelings while at the same time acknowledging (at a cognitive level) that they are dissatisfied with their life (Pavot & Diener, 1993). A focus on cognitive aspects of wellbeing could also provide a surrogate measure of resilience.

A cognitive appraisal of wellbeing was measured using the Satisfaction with Life Scale (Pavot & Diener, 1993). Participants were asked to indicate their agreement with each statement, e.g. "I am satisfied with my life". Answers were on a 7 point scale where 1= *Strongly disagree* and 7 = *Strongly agree*. Items were added to give a total score for each participant, which was then averaged for all participants in the group.

The Satisfaction with Life Scale (SWLS) measures life satisfaction as a whole rather than specific domains of life (such as health or finances). The 5-item scale allows participants to assess their lives by their own standards and gives an overall score of life satisfaction. This approach reflects the fact that what is considered to be a good life can vary from person to person. The SWLS has shown moderate temporal stability over time as well as sensitivity to change during the course of clinical intervention (Pavot & Diener, 1993). The SWLS has strong internal reliability and the added advantage of being very short, and easily administered with a battery of other tests. With the research sample, the SWLS yielded the following reliability coefficients, Time 1 (April n=31) showed an alpha of .89 and for Time 3 (November n=29) an alpha of .88.

Affective wellbeing was measured using the Positive and Negative Affect Scale (PANAS). PANAS is a measure of subjective well being that is divided into two dimensions, positive affect and negative affect. These dimensions are not opposing ends of the same scale but instead are described as orthogonal dimensions (Watson, Clark & Tellegen, 1988). The Positive affect scale shows

the degree to which a person feels enthusiastic, active and alert. High positive affect is associated with high levels of energy, concentration and enjoyable engagement and low positive affect with sadness and lethargy. High negative affect is associated with unpleasantness and subjective distress and low negative affect illustrates a state of calmness and serenity (Watson et al., 1988). Participants were asked to read each item on the PANAS and indicate the extent to which they had experienced that emotion (e.g. 'inspired' for positive emotion, 'afraid' for negative emotion), using a 5 point scale where 1 = *Very slightly or not at all* and 5 = *Extremely*. Items were added to give a total score for each participant, which was then averaged for all participants in the group. Overall the PANAS is a reliable, valid and short measure of affective wellbeing (Crawford & Henry 2004; Watson et al., 1988).

Reliability coefficients for the PANAS were as follows. Time 1 (April), Positive affect $\alpha = 0.73$, Negative affect $\alpha = 0.82$. Time 3 (November), Positive affect $\alpha = 0.74$; Negative affect $\alpha = 0.85$.

Resilience

Resilience was measured with the multidimensional COPE scales, which assess coping styles under stress (Carver et al., 1989). Coping styles can be considered as either adaptive (more resilient) or mal-adaptive (less resilient) (Carver et al., 1989). Participants in this study were asked to indicate how they

would usually respond to a stressful situation. They responded on a 4 point scale where 1 = *"I usually don't do this at all"* and 4 = *"I usually do this a lot"*. Items were added to give a total score.

The COPE scales that are considered resilient are summarized below.

Active Coping involves taking steps to deal with a problem or stressor, including direct action to improve a situation or minimize its impact. An example item is "I do what has to be done, one step at a time".

Planning involves identifying what steps to take when dealing with a problem, including coming up with action strategies. An example item is "I make a plan of action".

Suppression of competing activities means minimizing the time given to activities that distract from dealing with the stressor and putting other projects aside to focus on the problem at hand. An example item is "I focus on dealing with this problem, and if necessary let other things slide a little".

Restraint coping involves holding back from acting too soon and waiting for the right moment to take appropriate action. An example item is "I force myself to wait for the right time to do something".

Seeking social support for instrumental reasons means seeking out advice or information that may be helpful in dealing with a stressor. Social support is on resolving the problem. An example item is “I ask people who have had similar experiences what they did”.

Seeking social support for emotional reasons means seeking help for moral support or sympathy. An example item is “I talk to someone about how I feel”.

Positive reinterpretation and growth involves re-framing the problem in a positive way encouraging positive feeling, and a sense of meaning in what happens. An example item is “I look for something good in what is happening”.

Acceptance involves accepting the reality of a stressful situation. This is considered an important coping strategy when the situation is something that can't be easily changed and needs to be adapted to. An example item is “ I learn to live with it”.

COPE styles that are considered less resilient are summarized below.

Focus on and venting of emotions involves focusing on the distressing event and venting feelings about it. While sometimes considered a helpful coping style for a short period of time in situations of loss, generally this style is classified as a maladaptive or less resilient coping style (Carver et al., 1989). Staying in a negative emotional state for too long can lead to dysfunction and does not

actively deal with the problem. An example item is “ I get upset and let my emotions out”.

Denial involves refusing to believe that a problem exists or acting as if the problem is not real. Denying the reality of a situation does not help a person to cope and may result in a worsening of the situation. An example item is “I refuse to believe that it has happened”.

Behavioral disengagement involves reducing efforts to cope with a stressor or giving up trying. This is associated with helplessness. An example item is “ I just give up trying to reach my goal”.

Mental disengagement involves mentally distracting oneself with competing activities that disengage oneself from the problem. This impedes active coping. An example item is “I daydream about things other than this”.

For the sample in this study, Table 5 shows the reliability coefficients for the COPE scales at Time 2 (August) and Time 3 (November). The August reliability coefficients for the individual COPE scales were lower due to the smaller sample size. Item 3 was dropped from the August active coping scale to increase the scale coefficient.

Table 5. Reliability Coefficients for the COPE Scales

	Time 2	Time 3
COPE scale	Alpha	Alpha
1. Active Coping	.64	.72
2. Planning	.64	.80
3. Suppression of competing activities	.59	.62
4. Restraint Coping	.65	.86
5. Seeking Social Support for instrumental reasons	.73	.86
6. Seeking social support for emotional reasons	.65	.86
7. Positive reinterpretation & growth	.88	.87
8. Acceptance	.81	.84
9. Focus on venting of emotions	.88	.91
10. Denial	.95	.96
11. Behavioral disengagement	.89	.92
12. Mental disengagement	.79	.69
Resilient coping (1-8 combined)	.83	.90
Problem focused coping (1-4 combined)	.72	.83
Social coping (5-6)	.74	.87
Meaning based coping (7-8)	.86	.90
Non-resilient coping (9-12)	.93	.93

The second measure of resilience was the 7-item Curiosity and Exploration Inventory (CEI). The CEI is a brief self-report questionnaire that measures individual differences in the way people seek and integrate new and challenging experiences or information (Kashdan et al., 2004). The CEI has two factors. The first factor is “exploration” which refers to a person’s appetite for novel and challenging information (an example item includes “Everywhere I go, I am looking out for new things or experiences”). The second factor, absorption, refers to the level of deep engagement in activities (an example item includes “When I am participating in an activity, I tend to get so involved that I lose track of time”). Participants indicated their agreement or disagreement using a 7 point scale where 1 = *Strongly disagree* and 7 = *Strongly agree*. Items were averaged to give a total score.

The CEI has been shown to have good internal reliability, moderately positive relationships with intrinsic motivation, reward sensitivity, openness to experience and subjectivity vitality. It appears to be unaffected by social bias (Kashdan et al., 2004). For this sample the reliability coefficients were as follows. At Time 2, exploration $\alpha = .68$ and absorption $\alpha = .68$, at Time 3, exploration $\alpha = .72$ and absorption $\alpha = .72$.

Restructure Impact measures

One of the strongest organizational/environmental influences on employees during 2003 was the major restructuring within Carter Holt Harvey Woodproducts. Some of the employees experienced significant and prolonged job uncertainty within a financially struggling business during 2003. Four of the employees in this study were made redundant during the course of the year. Other employees experienced increasingly heavier workloads. The impact of restructuring was measured using a questionnaire developed specifically for this study. The questions covered four domains: emotional wellbeing, physical wellbeing, work/life balance and overall satisfaction with life. Employees were asked to indicate what impact the restructure was having on each of the domains using a 5 point scale where 1 = *strongly positive impact*; 3 = *no impact* and 5 = *strongly negative impact*. The scores on all dimensions were added together to give an overall impact score. Participants were also asked an open-ended question as to whether the restructure was having any other impact on them not covered by the questionnaire.

For this sample, the restructure scale administered during April, August and November yielded the following reliability coefficients. Time 1 $\alpha = .86$, Time 2 $\alpha = .63$, Time 3 $\alpha = .82$.

Further feedback was obtained from the qualitative interviews with managers in November. In semi-structured one to one interviews four managers were asked a series of questions about the current work environment, changes during the year and the impact that they may have had on groups during the year.

Chapter 7: Results

Time 1

At Time 1, data on stress and wellbeing was available for groups 1, 2 & 3. The stress variables measured were performance difficulties, general distress, somatic distress and negative affect. The subjective wellbeing variables measured were positive affect and life satisfaction. Table 6 shows correlations among the stress and wellbeing variables at this time.

Table 6. Correlation Matrix for Time 1 Stress and Wellbeing Variables

	1	2	3	4	5	6	7
Performance Difficulties	*						
General Distress	.59**	*					
Somatic Distress	.28	.02	*				
Life Satisfaction	-.57**	-.75**	-.15	*			
Positive Affect	-.30	-.56**	.04	.63**	*		
Negative Affect	.51**	.56**	.25	-.43*	-.21	*	
Restructure impact April	-.18	-.09	-.07	-.07	.24	-.28	*
Mean	1.65	1.65	1.41	24.31	3.32	1.71	12.88
SD	.42	.44	.38	6.60	.71	.47	2.86

Two of the three measures of distress (general distress and performance difficulties) showed some of the expected correlations, although somatic distress was uncorrelated at Time 1 with any other variable. Performance difficulties, general distress and negative affect were all positively correlated. As expected these three measures of distress were negatively correlated with life satisfaction and general distress was negatively correlated with positive affect. The two measures of positive wellbeing (positive affect and life satisfaction) were also positively correlated.

Impact of resilience training on stress and wellbeing

There were no significant differences between Group 2 and Group 3 (the two groups which had not received any resilience training at Time 1) on the measures of distress and wellbeing. They were combined into a single “No training” Group (n=20) for comparison with Group 1 (n=11) which had already had resilience training.

Hypothesis 1a, that at Time 1, Group 1 (trained 2002) would show lower scores on performance difficulties, general feelings of distress, somatic distress and negative affect than the untrained Groups 2 and 3 was supported only for somatic distress ($t(29df)=2.38, p < .05$). There were no significant differences between the groups on the other stress measures.

All groups showed low stress levels at Time 1 despite the recent restructuring. The average score for all groups combined was 1.5 on a scale from 1 to 4 (where 4 indicated high levels of stress) (see Figure 2). Negative affect (shown in Figure 4) was also low for all groups. The significantly lower levels of somatic distress for Group 1 may indicate that the resilience training assisted with the management of the physical impacts of stress but, without a pre-training 2002 baseline measure of somatic distress for this group, this conclusion is tentative.

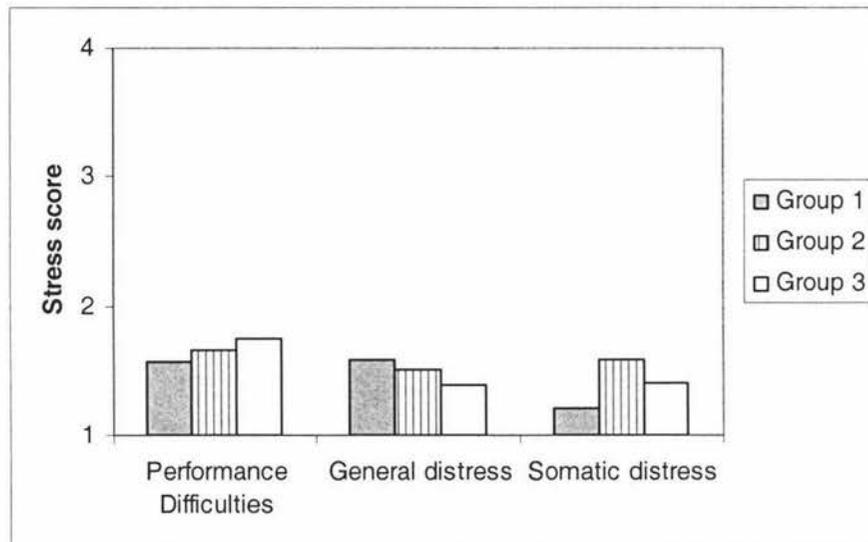


Figure 2. Stress levels at Time 1

Hypothesis 1b stated that at Time 1, Group 1 (Trained 2002) would show higher wellbeing as measured by higher scores for life satisfaction and positive affect than the untrained Groups 2 and 3. This hypothesis was not supported, as there were no significant differences between the groups on positive affect or life satisfaction.

All groups showed reasonable levels of life satisfaction and positive affect (see Figures 3 & 4). Despite the uncertainty due to the restructuring, all groups reported healthy levels of positive affect and low levels of negative affect.

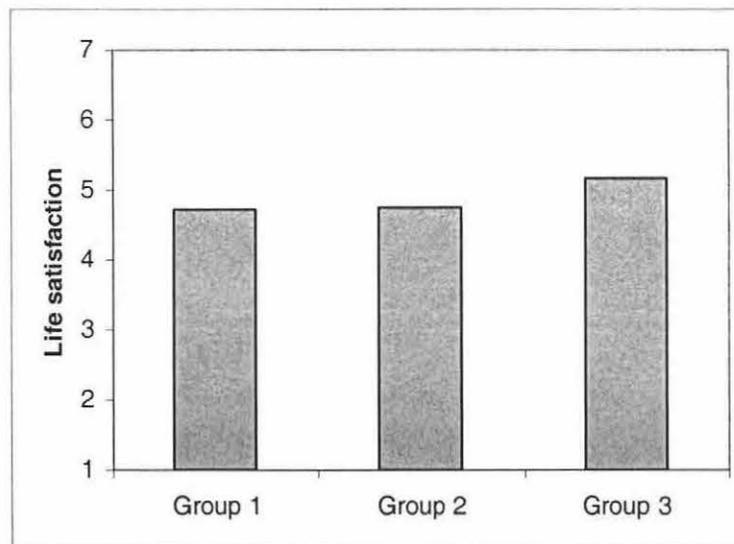


Figure 3. Life satisfaction at Time 1

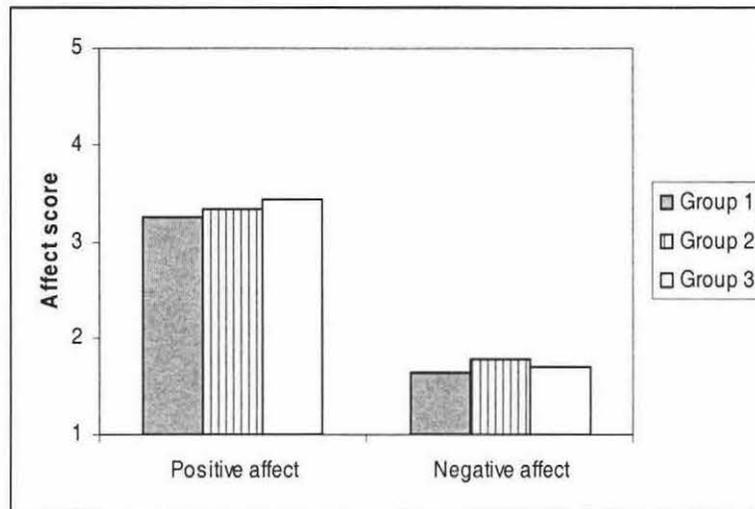


Figure 4. Positive and negative affect at Time 1

Impact of the restructuring at Time 1

Hypothesis 1c, which stated that at Time 1, the restructure impact would be positively correlated with stress as measured by performance difficulties, general feelings of distress, somatic distress and negative affect and negatively correlated with wellbeing as measured by life satisfaction and positive affect was not supported as there were no significant correlations between restructure impact and the stress and wellbeing variables (see Table 6). Mean scores for restructure impact for all groups fell within the “No impact” to “Slightly negative impact” range with a mean score across all groups of 12.88. Scores above 12 indicated a negative impact whereas scores below 12 indicated a positive impact (Figure 5). There were no significant differences between groups.

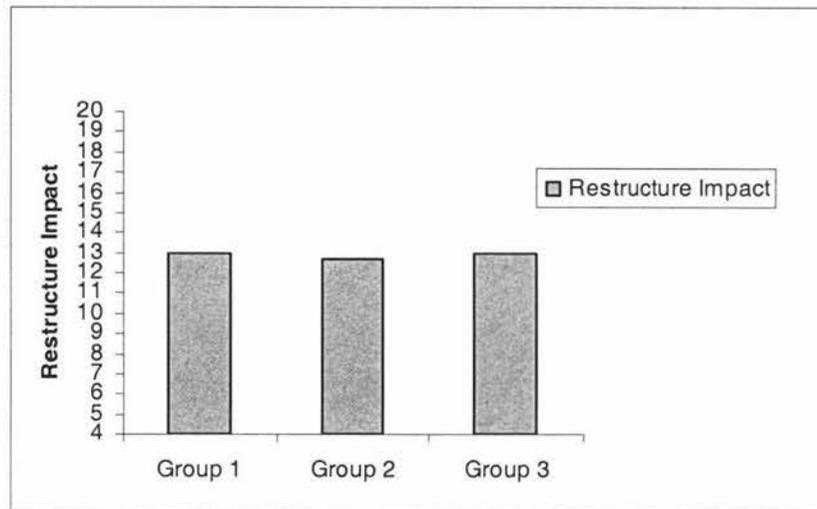


Figure 5. Restructure impact at Time 1

Employees also had the opportunity to give open-ended comments about the restructure impact.

Some of the employees who rated the restructure impact as negative gave further feedback. One participant commented that the restructuring was “Demotivational”, another wrote “It has been a long drawn out process which in itself causes stress”. Another employee wrote “Losing key resource and the perceived lack of cohesion through the business is negative”.

One respondent considered that the restructure had had no impact on him/herself but that it had had significant impact on others within the team.

The employees who rated the restructure impact as positive made the following observations, “Readjusted my attitude to myself, now focus on providing body

and mind to cope with stress, look after myself to provide for myself” and another employee commented that they were “No longer reporting to the same boss”.

Time 2

Data was collected on the resilience related variables of coping and curiosity (as measured by exploration and absorption). Table 7 shows the correlations among the variables and the restructure impact. At Time 2 both Groups 1 & 2 had received resilience training and Group 3 had not received any training. Group 1 had received further training (in addition to that received before Time 1) in stress mastery, physical vitality and emotional resilience. Group 2 also received this training but had not yet received training in cognitive or spiritual resilience.

The hypotheses for Time 2 were made assuming that the organizational environment would remain relatively constant for all three groups. However there was an announcement that the central Supply Chain team (Groups 1 & 2) would be disestablished and aligned with the four business divisions and so Groups 1 & 2 were facing significant uncertainty whereas the environment for Group 3 was relatively stable. The August questionnaire was administered just prior to the fourth resilience training session at the same time as interviews were being conducted and redundancies were being announced. Not surprisingly, the employee response rate for this research was much lower at this time. There

was also a notable drop in qualitative feedback. The restructure impact questionnaire was administered to the Supply Chain Group (Groups 1 & 2) only as the changes related directly to their area of the business.

Due to the small sample size few of the expected correlations among coping styles were significant.

Correlations among the resilient coping variables show that active coping was positively correlated with suppression of competing activities and positive reinterpretation was positively correlated with acceptance. The resilient coping style of planning was negatively correlated with the non-resilient style of mental disengagement.

The non-resilient coping styles of venting emotions, denial, behavioral disengagement and mental disengagement were all positively correlated with each other as expected.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Active coping	*															
2. Planning	.29	*														
3. Suppression of competing activities	.46*	.42	*													
4. Restraint coping	-.04	-.05	.37	*												
5. Seeking social support – Instrumental	.05	.35	.39	.4	*											
6. Seeking Social Support - Emotional	-.33	.16	-.3	-.2	.24	*										
7. Positive reinterpretation	.14	.36	.03	.15	.4	.42	*									
8. Acceptance	.14	.3	.23	.3	.24	.34	.48*	*								
9. Venting emotions	-.21	-.3	-.13	.11	-.07	.29	-.01	0	*							
10. Denial	.13	-.38	.13	.26	.07	.21	.15	.01	.54*	*						
11. Behavioral disengagement	.04	-.4	.04	.11	-.13	.06	-.01	-.22	.56*	.77**	*					
12. Mental disengagement	-.06	-.51**	.02	.13	-.13	-.2	-.11	-.23	.51*	.46*	.53*	*				
13. Exploration	.24	.57**	.26	.15	.27	.08	.59**	.43	-.26	-.35	-.32	-.16	*			
14. Absorption	.15	.50**	.37	.01	.39	.11	.33	-.05	-.24	.02	-.06	.02	.55*	*		
15. Restructure April	.06	.45*	.19	-.11	-.06	.06	-.03	.3	-.16	-.61**	-.47*	-.47*	.26	-.2	*	
16. Restructure August	-.42	-.21	-.14	.3	-.11	.13	-.04	-.18	.58*	-.06	.18	.25	.13	-.12	.76	*
Mean	9.16	11.85	9.20	9.95	10.45	8.63	9.16	11.85	9.20	9.95	10.45	8.63	12.35	16.95		13.43
SD	1.17	2.06	2.17	2.78	2.91	2.58	2.93	3.04	3.01	3.42	2.5	2.65	2.67	4.37		2.10

Table 7: Correlation Matrix for Time 2 Coping and Curiosity Variables

Resilience training and coping at Time 2

Hypothesis 2a which stated that, at Time 2, Group 1 (Trained 2002) would show more use of the resilient coping styles of active coping, planning, suppression of competing activities, restraint coping, seeking social support (instrumental and emotional), positive reinterpretation and growth and acceptance than Group 2 (Partial training) or Group 3 (No training) was not supported. All groups showed medium levels of resilient coping with no significant differences between the groups (Figure 6).

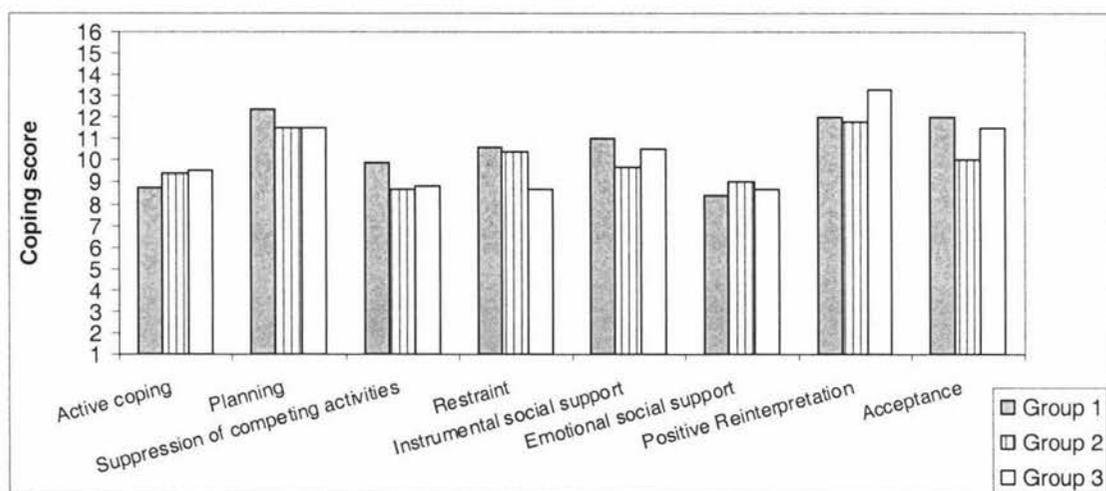


Figure 6. Use of resilient coping at Time 2

Hypothesis 2b which stated that at Time 2, Group 1 (Trained 2002) would show less use of the non-resilient coping styles of venting of emotions, denial, behavioral disengagement and mental disengagement than Group 2 (Partially

trained) or Group 3 (No training) was not supported. There were no significant differences between groups on the use of less resilient coping styles (Figure 7).

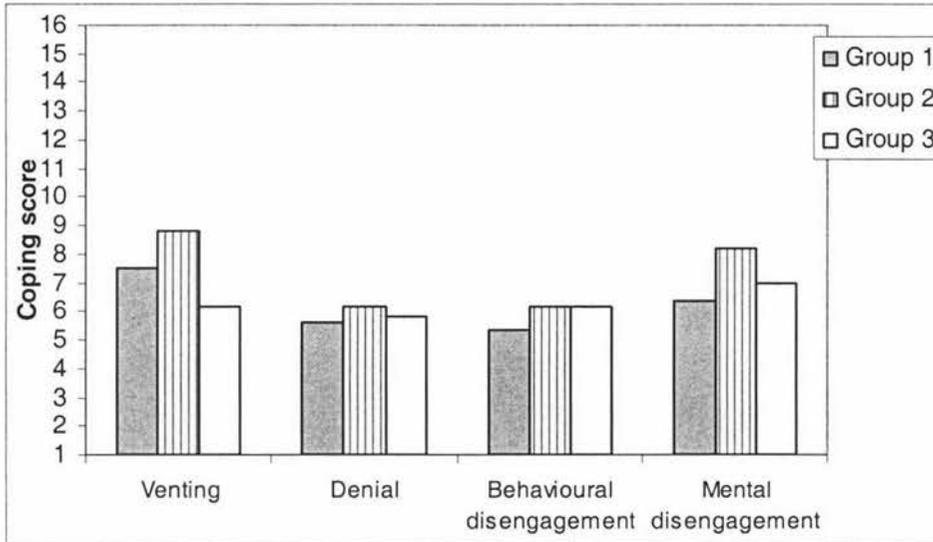


Figure 7. Use of less resilient coping at Time 2

The use of resilient coping styles was lower overall than the use of non-resilient styles for all groups (Figure 8). The scores for resilient coping shown in Figure 8 represent the means of the scores for the resilient coping items divided by the number of items ($n=32$), and the scores for non-resilient coping are the sums of the non-resilient coping items divided by the number of items ($n=16$).

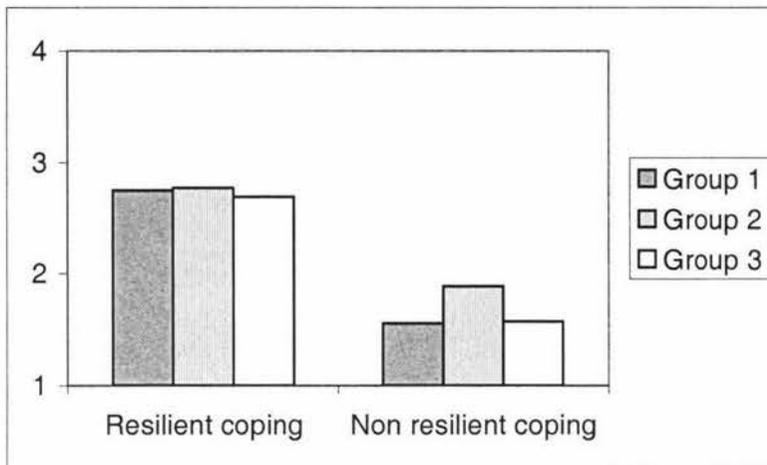


Figure 8: Resilient and non-resilient coping at Time 2

Resilience training and curiosity

Hypothesis 2c which stated that at Time 2 Group 1 (Trained 2002) would show more curiosity than Group 2 (partial training) or Group 3 (No training) was not supported as there were no significant differences between groups for exploration ($F(2,17) = .37, n.s.$) or absorption ($F(2,17) = .02, n.s.$).

There was a positive correlation (Table 7) between the two facets of curiosity (exploration and absorption) as expected. There was also a positive correlation between the resilient coping style of planning and both measures of curiosity (exploration and absorption). The resilient coping style of positive reinterpretation was also positively associated with exploration. These correlations suggest that there is an association between curiosity and some of the problem-focused and meaning-focused resilient coping styles. Those participants who scored high in

curiosity were using more planning styles and those participants who scored high in curiosity (exploration only) showed higher use of the coping style positive re-interpretation.

Impact of the restructuring at Time 2

As the reliability coefficient for the restructure impact scale was unacceptable for Time 2, the four scale items were not combined and results for each restructure impact scale are reported separately below.

Mean scores for each group for each of the four impact variables fell within the range of “No impact” (score of 3) to “Slightly negative impact” (score of 4) (Figure 9). There were no significant differences between groups. For restructure impact, scores below 3 indicate positive impact, 3 indicates no impact and scores above 3 indicate a negative impact.

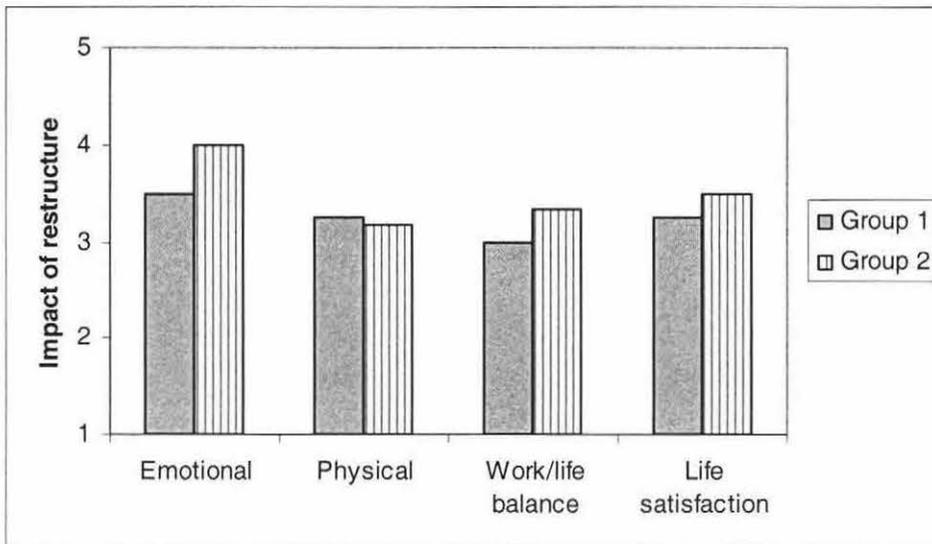


Figure 9. Impact of restructure at Time 2

The correlations presented in Table 7 show that venting of emotions was positively correlated to total restructure impact August. Participants who rated the restructuring as having a negative impact showed higher use of venting of emotions. As mentioned above, the reliability of the restructure scale at this time was not high so Table 8 shows the correlations between variables and the individual restructure scale items. Venting of emotions positively correlates with the scale item physical wellbeing.

Table 8. Correlations between Coping, Curiosity and the Restructure Impact

Coping	Variables			
	Emotional Wellbeing	Physical Wellbeing	WLB	Life satisfaction
Active coping	.28	.36	-.61	-.40
Planning	-.36	-.14	-.09	-.11
Suppression of competing activities	-.06	-.16	-.03	-.16
Restraint coping	.28	.04	.09	.41
Seeking social support, Instrumental	-.36	.07	.07	-.01
Seeking social support, Emotional	.06	.05	.27	-.05
Positive reinterpretation	-.19	-.13	.19	.05
Acceptance	-.09	.02	-.46	.09
Venting emotions	.31	.70**	.28	.35
Denial	.01	-.24	.36	-.41
Behavioral disengagement	.26	.04	.25	-.14
Mental disengagement	-.01	.16	.35	.26
Exploration	-.07	.05	.14	.31
Absorption	-.32	-.33	.43	-.09

An unexpected finding was that the April restructure impact was positively correlated to the resilient coping style of planning in August (Table 7). The April

restructure impact was also negatively correlated to denial, behavioral and mental disengagement behaviors in August. This suggests that those who rated the April restructure as having a negative impact were more likely to be engaging in planning behaviors during the August restructure and less likely to be using non-resilient styles of denial, behavioral or mental disengagement in August.

The qualitative feedback was scarce at this time with only one employee giving qualitative feedback. The employee rated the restructure as slightly positive in term of emotional wellbeing and slightly negative on work/life balance giving no impact on the other two domains. This employee commented, "At first the restructure had a negative impact but take learning and opportunities from it".

Time 3

The hypotheses for Time 3 (November) were made assuming that the organizational environment would remain relatively constant for all three groups. By Time 3, a new Chief Executive and organizational structure were in place. There was also an increased workload for some employees as a result of new structure and Supply Chain redundancies. Just prior to the final phase of data collection, it was announced that the Tokoroa sawmill would be shut down. At the same time, a Commerce Commission enquiry into timber marketing meant that some employees were working long hours and some were bearing the brunt of a customer backlash. In addition to this, external consultants were conducting an

audit with a view to restructuring again possibly back to the original structure. The employees directly affected by these factors were again, Groups 1 and 2. Overall Group 3 was less affected, although it is possible that some members of Group 3 (those in Sales and Marketing) may have been affected by the presence of external consultants. This context is important when looking at the results at Time 3.

Data on all stress, wellbeing, coping and resilience measures was available at Time 3 for all groups. At this time Groups 1 & 2 had completed all their resilience training (Group 1 for the second time) and Group 3 had had no training. Data was also collected on the restructure impact for all three groups. Table 9 shows the correlations between variables for stress, wellbeing, coping, curiosity and restructure impact at Time 3.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Performance Difficulties	*																				
2. General Distress	.42*	*																			
3. Somatic Distress	.35	.17	*																		
4. Life Satisfaction	-.59**	-.55**	-.28	*																	
5. Positive Affect	-.19	-.32	.11	.43*	*																
6. Negative Affect	.47*	.38*	.35	-.32	-.33	*															
7. Restructure November	.10	-.05	-.31	-.20	-.28	.15	*														
8. Active Coping	-.00	.15	-.11	.01	.19	-.08	.35	*													
9. Planning	-.24	-.11	.03	.28	.66**	-.51**	-.25	.35	*												
10. Suppression of competing activities	-.17	-.16	.05	.43*	.57**	-.45*	-.22	.07	.66**	*											
11. Restraint Coping	-.02	.07	-.20	.32	.55**	-.30	-.09	.05	.42*	.32	*										
12. Seeking Social Support - I	-.14	-.02	-.01	.43*	.47*	-.09	-.11	.15	.31	.53**	.37	*									
13. Seeking Social Support - E	-.25	-.22	.12	.26	.47*	-.09	-.39*	-.27	.14	.26	.14	.49*	*								
14. Positive Reinterpretation	-.01	-.19	-.01	.29	.55**	-.32	-.04	.30	.37	.17	.31	.25	.17	*							
15. Acceptance	-.07	-.18	-.01	.21	.40*	-.30	.15	.14	.29	.13	.27	.27	.07	.71**	*						
16. Venting emotions	-.27	.03	.24	.18	.32	.08	-.25	-.37	.09	.10	.28	.25	.33	-.06	.10	*					
17. Denial	-.28	-.26	.07	.42*	.55**	-.22	-.30	-.16	.37	.51**	.46	.23	.30	-.13	-.19	.47*	*				
18. Behavioral disengagement	-.10	-.19	.26	.21	.40*	-.16	-.54**	-.57**	.11	.28	.27	-.05	.24	-.08	-.14	.43*	.67**	*			
19. Mental disengagement	-.21	-.11	-.08	.24	.12	-.10	-.22	-.57**	-.10	.08	.38*	.10	.17	-.22	-.27	.51**	.48*	.60**	*		
20. Exploration	-.03	.04	.05	.38*	.63**	-.14	-.04	.29	.37	.39*	.52**	.62**	.42*	.64**	.45*	.09	.05	-.13	-.07	*	
21. Absorption	.02	.32	-.09	.04	.12	-.01	-.08	-.01	.28	.45*	.41*	.33	.01	.23	.14	-.11	.00	-.03	.10	.38	*
Mean	1.70	1.50	1.36	24.90	3.38	1.65	12.07	8.56	10.37	9.48	9.70	10.44	8.48	11.48	11.48	7.89	5.30	6.85	7.85	16.07	18.00
SD	.39	.47	.29	6.11	.73	.52	3.32	1.63	2.69	2.23	3.09	3.12	3.55	2.95	3.04	3.64	3.10	3.26	2.54	2.91	4.19

Table 9 Correlation Matrix for Time 3 Stress, Wellbeing, Coping and Curiosity Variables

Stress and wellbeing at Time 3

The stress and wellbeing correlations were as expected (see Table 9). Performance difficulties, general distress and negative affect were all positively correlated. General distress and performance difficulties were negatively correlated with life Satisfaction. Life satisfaction was positively correlated with positive affect.

Hypothesis 3a stated that at Time 3, Group 1 (Trained 2002 & 2003) would show less stress than Group 2 (Trained 2003) who would show less stress than Group 3 (No training) as indicated by lower scores on performance difficulties, general feelings of distress, somatic distress and negative affect. Analysis of variance failed to support this hypothesis.

To increase the sample size in the trained group, Groups 1 and 2 were combined and unrelated-samples t-tests were conducted. Groups 1 and 2 did not differ on any of the stress variables. The analysis showed that Group 3 scored significantly lower on negative affect than Group 1 and 2 ($t(27df) = -2.37, p < .05$).

As Figure 10 shows, all employees reported low levels of stress and appeared to be managing the workplace stressors very well. Negative affect is shown in Figure 12.

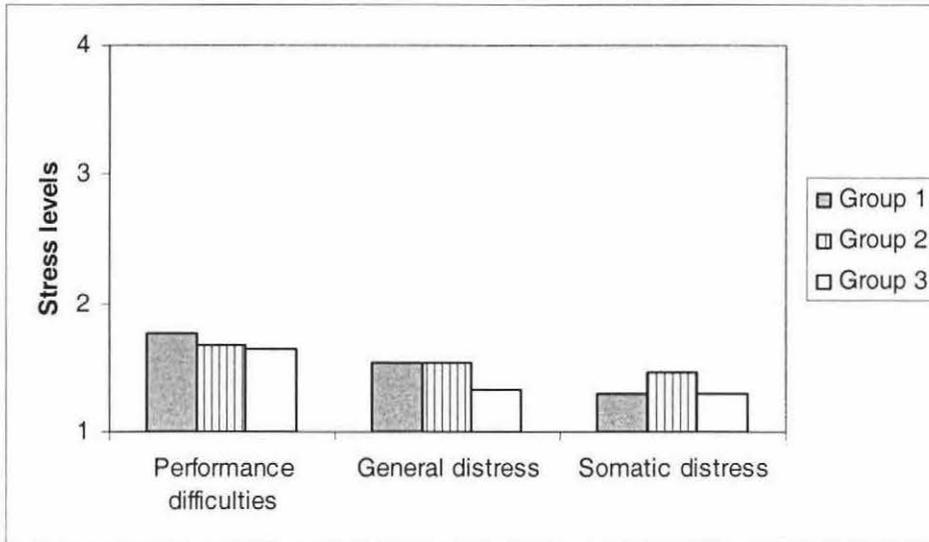


Figure 10. Stress levels at Time 3

Hypothesis 3b stated that at Time 3, Group 1 (Trained 2002 & 2003) would show higher scores for life satisfaction and positive affect than Group 2 (Trained 2003) who would in turn show higher scores on life satisfaction and positive affect than Group 3 (No Training). Analysis of variance failed to support this hypothesis.

Overall, all groups maintained good levels of life satisfaction and positive affect and low levels of negative affect (Figures 11 & 12).

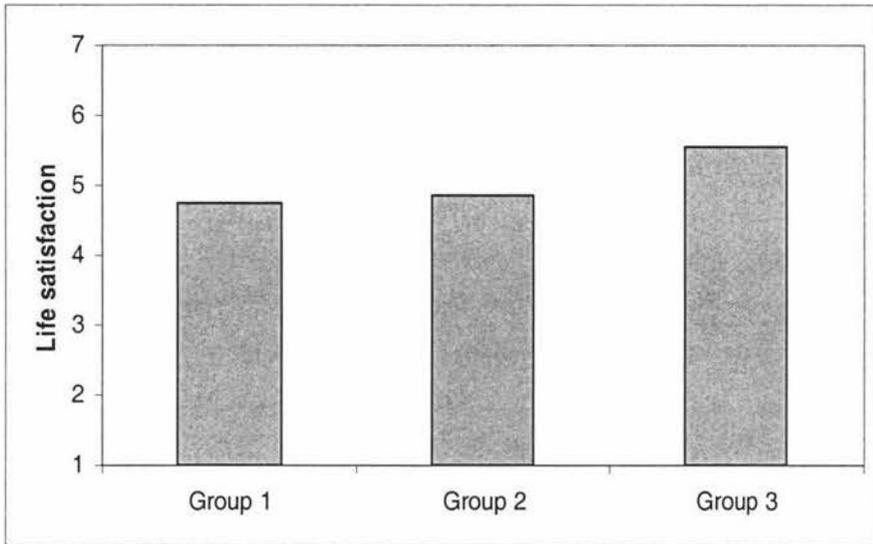


Figure 11. Life satisfaction at Time 3

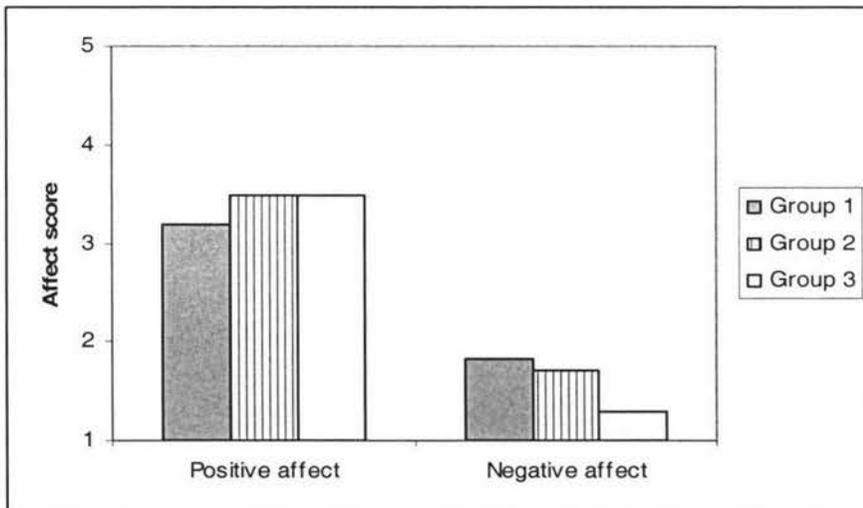


Figure 12. Positive and negative affect at Time 3

Impact of the restructuring at Time 3

The employees who appeared to be the most affected by organizational changes were Groups 1 and 2. Group 3 appeared to be less affected. This context is important when looking at the results at Time 3. The restructure impact questionnaire was administered to all groups.

Hypothesis 3c, which stated that at Time 3, the restructure impact would positively correlate with stress as measured by performance difficulties, general feelings of distress, somatic distress and negative affect and negatively correlate with wellbeing as measured by life satisfaction and positive affect was not supported. There were no significant correlations between restructure impact and the stress and wellbeing variables at this time.

For restructure impact the mean scores for each group varied. As Figure 13 shows, Group 1 rated the restructure impact as slightly negative (over 12), Group 2 rated the restructure as having no impact (12) and Group 3 rated the restructure impact as slightly positive (under 12), although the difference between groups did not reach significance.

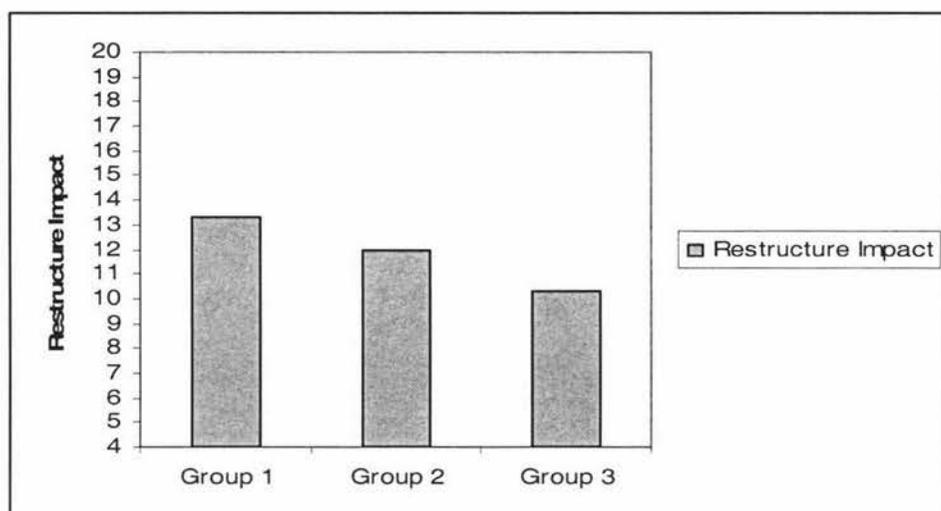


Figure 13: Restructure impact at Time 3

Restructure impact did show a negative correlation with the coping styles of seeking social support emotional and behavioral disengagement (Table 9). Those participants who rated the restructure impact as negative were less likely to be seeking emotional support and less likely to be using the style of behavioral disengagement at this time.

There was more qualitative feedback on the restructure at Time 3. Comments from individual employees who rated the restructure as positive included “My communication is much better from the CHH work environment providing confidence” and another employee said “Our dept is now larger, I report to a different supervisor, I am retiring at the beginning of next year and this is also improving my morale”.

There were a few comments from employees who rated the restructure impact as negative. One employee mentioned, "Current issues have removed balance". Another employee was more ambivalent and wrote, "Changing role has offset a fair amount of the negative downside". Another employee wrote "the environment at the moment and in the recent past has been quite changeable and confusing. This would normally cause a lot of stress and worry" this same employee also mentioned that "With some of the principles from the programme, I am able to deal with the stresses more constructively. A pathway is there".

Coping styles at Time 3

Hypothesis 3d which stated that at Time 3, Group 1 (Trained 2002 & 2003) would show more use of resilient coping than Group 2 (Trained 2003) who would show more use of resilient coping than Group 3 (No Training) as indicated by higher scores on active coping, planning, suppression of competing activities, restraint coping, instrumental and emotional social support, positive reinterpretation and growth and acceptance was not supported as there were no significant differences between groups.

Most of the scores for all groups on resilient coping fell within the "medium amount" range (Figure 14).

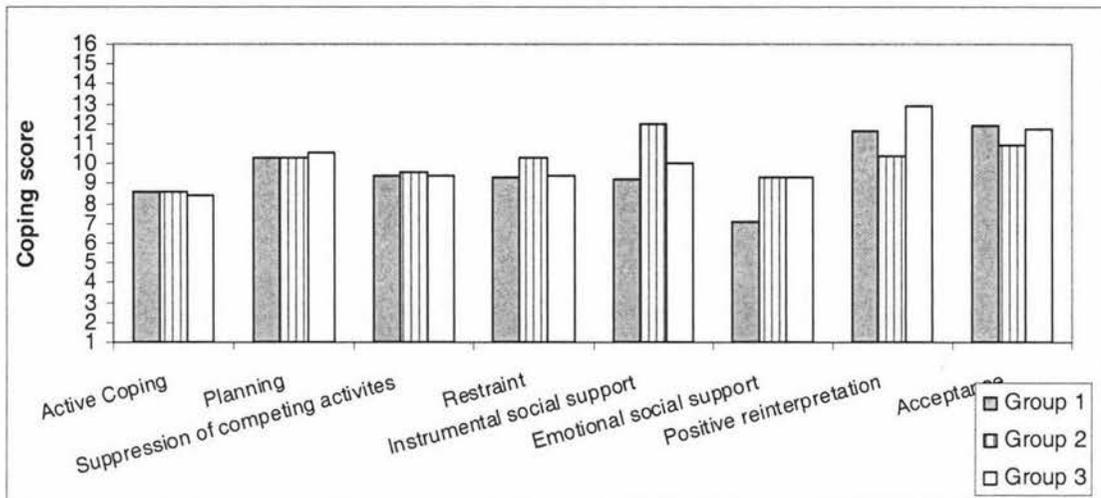


Figure 14. Use of resilient coping at Time 3

Hypothesis 3e which stated that at Time 3, Group 1 (Trained 2002 & 2003) would show less non-resilient coping than Group 2 (Trained 2003) who in turn would show less non-resilient coping than Group 3 (No Training) as indicated by lower scores on venting of emotions, denial, behavioral disengagement and mental disengagement was not supported. No significant differences were found between groups on any of the non-resilient coping styles with the exception of venting emotions (Figure 15). Group 2 showed significantly higher levels of “venting of emotions” than the other two groups ($F_{2,24} = 3.51, p < .05$).

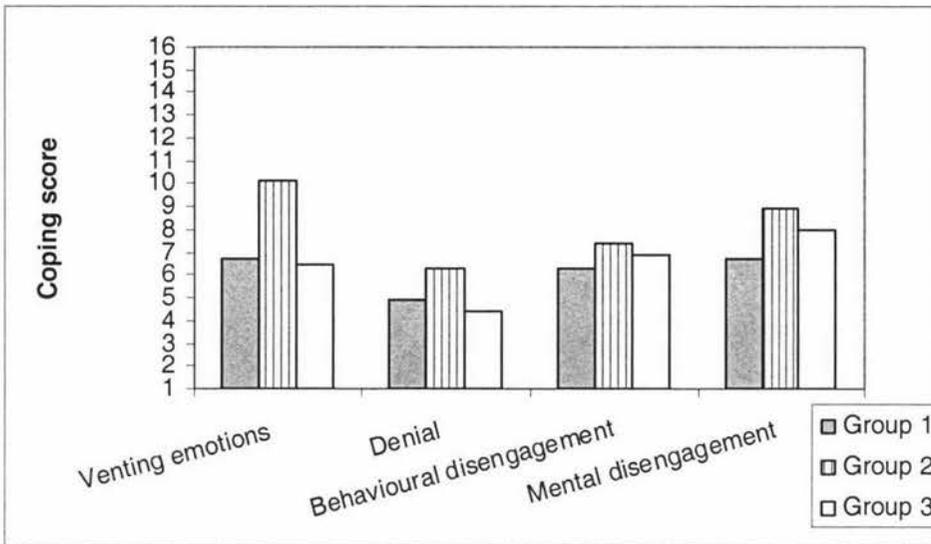


Figure 15: Use of less resilient coping styles at Time 3

All groups showed low levels of non-resilient coping (Figure 15) at Time 3. All groups showed more use of resilient coping styles than non-resilient coping styles (Figure 16).

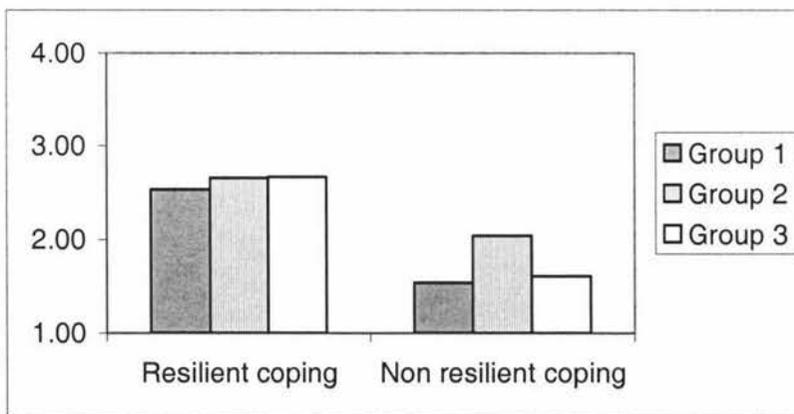


Figure 16: Resilient and Non-resilient coping styles at Time 3

The results showed some of the expected correlations between the resilient coping variables. Planning was positively correlated with suppression of competing activities and restraint coping, and instrumental social support was correlated with suppression of competing activities and emotional social support. Positive reinterpretation was positively correlated with acceptance.

The non-resilient coping styles of denial, venting, behavioral and mental disengagement were inter-correlated.

Correlations between the resilient and non-resilient coping styles showed that active coping was negatively correlated with behavioral and mental disengagement. Unexpectedly, suppression of competing activities was positively associated with denial, and restraint coping was positively correlated with denial and mental disengagement.

Correlations between coping styles and stress showed that negative affect was negatively correlated with the resilient coping styles of planning and suppression of competing activities.

Coping styles were associated with wellbeing but not always in the expected directions. Positive affect was positively correlated with planning, suppression of competing activities, restraint coping, positive reinterpretation, emotional and instrumental social support and acceptance and, unexpectedly, with denial and

behavioral disengagement. Life satisfaction was positively correlated with suppression of competing activities, instrumental social support and also with denial. In the current situation the more adaptive or resilient coping styles appeared to be those that revolved around cognitively and behaviorally disengaging from the difficult work environment. This issue is further addressed in the discussion

Effects of resilience training on curiosity and exploration at Time 3

Hypothesis 3f which stated that at Time 3, Group 1 (Trained 2002 & 2003) would show more curiosity than Group 2 (Trained 2003) who would show more curiosity than Group 3 (No Training) as indicated by higher scores for exploration and absorption was not supported. There were no significant differences between groups on exploration ($F(2, 24) = 1.07, n.s.$) or absorption ($F(2, 24) = .27, n.s.$).

The correlation matrix (Table 9) shows that curiosity (as measured by exploration and absorption) correlated with some resilient coping styles and positive wellbeing. Both exploration and absorption were positively correlated with restraint coping and suppression of competing activities. Exploration was also positively correlated with seeking social support instrumental, seeking social support emotional, positive reinterpretation and acceptance. Curiosity appears to be related to some types of problem-focused coping, social coping and meaning

based coping. Exploration was also positively correlated to life satisfaction and positive affect.

Impact of resilience training between Time 1 and Time 3

Stress and wellbeing

Hypothesis 3g which stated that at Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) would show lower symptoms of stress compared to Time 1 as indicated by lower scores on performance difficulties, general feelings of distress, somatic distress and negative affect was not supported. The results of the paired samples t-tests for differences on these variables between Time 1 and Time 3 showed no significant differences.

Repeated measures analysis of variance showed no main effect for Time 1 and Time 3 for negative affect but a significant interaction between Group and Time for these 2 time periods ($F(2,26)=3.81, p<.05$). Figure 17 shows that while negative affect was relatively consistent across groups at Time 1, at Time 3 Group 3 showed lower levels of negative affect than the other 2 groups.

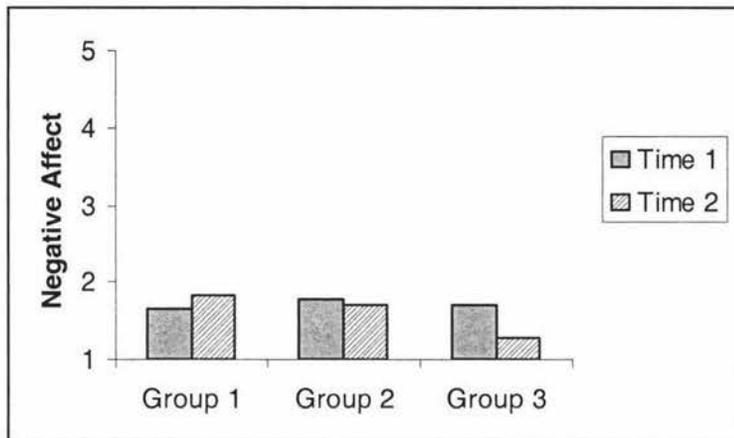


Figure 17: Negative affect scores at Time 1 and Time 3

Hypothesis 3h which stated that at Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) would show improved levels of wellbeing at Time 3 compared to Time 1 as indicated by higher scores on life satisfaction and positive affect was not supported. The results of paired sample t-tests between Time 1 and Time 3 showed no significant differences.

Impact of resilience training between Time 2 and Time 3

Coping

Hypothesis 3i stated that at Time 3, Group 1 (Trained 2002 & 2003) and Group 2 would show improved levels of resilient coping compared to Time 2 as indicated by higher scores on active coping, planning, suppression of competing activities, restraint coping, seeking social support for instrumental reasons, seeking social

support for emotional reasons, positive reinterpretation and growth and acceptance. This hypothesis was not supported for any of these variables. The related samples t-tests showed no significant differences between Time 2 and Time 3 on the resilient coping styles with the exception of planning ($t(18df)=2.07$, $p <.05$). The mean score across all groups at Time 3 for planning was significantly lower than at Time 2. Further analysis revealed that this difference related to Group 1 and 2 only (resilience trained) $t(df12) = 2.23$, $p <.05$. This result was not hypothesized but makes sense given the work context. This is further addressed in the discussion.

Hypothesis 3j which stated that at Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) would demonstrate lower levels of non-resilient coping compared to Time 2 as indicated by lower scores on venting emotions, denial, behavioral disengagement and mental disengagement was not supported as related samples t-tests showed no significant differences between Time 2 and Time 3 on these coping styles.

While it was not hypothesized, a significant difference was found between Time 2 and Time 3 for Group 3 on the coping style of mental disengagement. Mental disengagement was higher at Time 3 for Group 3 than at Time 2.

Curiosity

Hypothesis 3k, which stated that at Time 3, Group 1 (Trained 2002 & 2003) and Group 2 (Trained 2003) would show more curiosity than at Time 2 as indicated by higher scores on exploration and absorption was not supported. No significant differences were found between times for either of these variables.

Restructure Impact

While differences in restructure impact were not hypothesized paired samples t tests and repeated measures ANOVA were conducted on restructure impact scores at all times. There were no significant differences between times.

Qualitative feedback from the interviews with management

In November, qualitative interviews were held with four managers (from within the resilience trained groups) to provide background information on the organizational environment at the final testing and during the year. The managers described some of the work stressors in November, reflected on the continuous changes during the year including some of the low points and also some of the factors that acted as a buffer to stress. The following themes emerged:

- Factors giving rise to stress in November
- The scope of the change experienced
- Different impact at different times of the year
- Factors that acted as a buffer to stress

Factors giving rise to stress in November

The work stressors that were identified in November included uncertainty with the sales and marketing review underway and increased workload and pressure as a result of the new structure and earlier redundancies, the closure of the Tokoroa Sawmill and the Commerce Commission enquiry.

Two managers commented on factors contributing to the workload pressures:

M1 "The MGP10 structural changes as a result of the Commerce Commission enquiry, had a big impact on people at this time, particularly on the planning, master data and some CSC staff. The impact was in terms of pressure and workload".

M2 "MGP10 Crisis, long hours. Levels of stress at this time are high".

M1 "Announcement of the Tokoroa sawmill closure had an impact in terms of offering customers an alternative. Had an impact on the planning team. It also had an impact in terms of pressure to boost performance results in other areas of the business, to buffer the financial performance".

Two managers commented on pressures related to the current structure and reduced staffing:

M1 "We tried to operate within the context of individual business units but with the realignment necessary, filling resource gaps after the departure of 9 people, and poor financial performance, it was impossible to operate this way and detrimental to the business".

M1 "With the reduced staff levels and the particular issues on the table it is impossible for me to maintain a healthy balance. I have been functioning at the edge for some time as are quite a few others".

M3 "The staffing gaps left with people moving on and not being replaced contributed to the pressure on people".

Some managers commented on the uncertainty with regards to the November sales and marketing review, related concerns included communication issues and a possible return to the old structure.

M1 "External consultants have been conducting a review of sales and marketing functions for the last few weeks. This is a tension point for all as there is a high probability after all the changes this year that they may move back to the original structure of the end of 2002".

M2 "Sales and marketing review has impacted, it makes you reflect on things, the uncertainty with what is going to happen".

M4 "The consultants just turned up, there was no communication. This creates uncertainty, speculations. I had to go and ask what they were doing".

The scope of the change experienced

Managers commented on the extent of the change during the 2003 year and how it was managed.

*M1 "We have had a tremendous amount of change. Three chief executives within a year, it is a ***** disgrace".*

M4 "Always things going on – me/my team/third review, its gone on all year. Changes – senior managers said there would be no more change, heard that from three throughout the year – CE, CO, new CE".

M4 "As a business we don't manage change well. We don't learn. We go into change mode without thinking through what we want to achieve. Change for the sake of change as opposed to constructive improvement".

M2 "As a whole business. Better now, a lot, learned more".

Different impact at different times of the year

The April, August and November work stressors varied. Opinions also varied as to which times during the year were better or worse than others.

M3 "A bit better now than the August period. From a personal perspective, changes to the team were difficult to manage".

M1 "Better now than then. The August period, Supply Chain review was the lowest point of the year. The business unit tensions, uncertainty, consultation, disagreement, high frustrations".

M2 “Personally, better now, there is more scope. For the rest of team, about the same”.

M3 “Worse now than in April, felt that the structure being formed was more positive even though we had been through a big wait period. Now, more change likely with new CE in place, more uncertainty, personally, new role, not knowing how that fits”.

Factors that acted as a buffer to stress

The factors that managers identified as having a buffering affect included the resilience training, having a resilience buddy, communication and teamwork. The comments are as follows:

M1 “The Resilience work and reference back to it, the language/behavior (from the sessions), bits of advice. People are under stress but it is easier to talk about it. The positive health behaviors, the buddy system, my buddy reminding me to go home/look after myself acts as a buffer”.

M4 “Resilience training – allowed us to manage change better. As a manager I actively supported the resilience practices, tell people to get up and do what they need to do, stretching etc. We still talk about it at our

meetings, stretching, breathing, relaxation. Eating styles have changed, exercising, generally healthier and focusing on quality of life. We try not to get caught up in what is going on, focus. Wish the rest of business could go through it”.

M2 “Great if the resilience training continued on. Reconfirmed what I thought and the learning. Good team thing, only thing we did together”.

M4 “Communication. Talking about it. We are a tight knit unit, very lucky. They can see the change happening but they carry on. They are unsettled though”.

Chapter 8: Discussion

The aim of this research was to investigate the effectiveness of an employee resilience training programme during a period of organizational restructuring.

Testing at Time 1 was to establish a baseline measure of stress and wellbeing prior to 2003 training and to test for between-group differences. Results showed that Group 1 (previously trained in 2002) had significantly lower somatic stress levels than the untrained groups. This shows partial support for the effectiveness of the 2002 training in building resilience. This may indicate that Group 1 was able to use the resilience techniques covered in their training in 2002 to reduce the physical impacts of stress, however as there was no pre 2002 training baseline measure of stress this conclusion is tentative. Overall all groups showed low stress and negative affect levels and high levels of wellbeing. Positive affect and negative affect were not correlated with each other supporting the literature that suggests that they are separate constructs (Crawford & Henry, 2004).

The testing at Time 2, partway through the 2003 training, was to establish a baseline measure of curiosity and coping styles and assess any between-group differences. The two trained groups were facing significant organizational stressors (further restructuring and possible redundancies) while the untrained group was in a more stable situation. The results showed no significant differences between groups on these measures. All groups showed good levels

of curiosity and good use of resilient coping styles and low use of non-resilient coping. Given that the concept of resilience involves the presence of a significant stressor, in this case, organizational restructuring and job uncertainty, there were clearly signs that the resilience trained groups were coping well under pressure. While the control group was also coping well, there was no significant stressor for them to contend with so resilience cannot be inferred (Masten, 2001).

While the sample size was smaller at Time 2, the correlations provided some insight into the resilience mechanisms at work. The resilient coping style of planning was negatively correlated with mental disengagement. Both of these styles are thinking styles and this correlation suggests that employees were planning how to deal with the stressor rather than avoiding thinking about it. Planning was also positively associated with both measures of curiosity. Both exploration and planning may be associated with resilience and involve exploring options. It is also interesting to note that exploration was positively correlated with positive reinterpretation. This adds some support to the link between exploration as a resilience mechanism and the resilient coping style of positive reinterpretation (Carver et al., 1989, Kashdan et al., 2004).

The testing at Time 3, two months after the last resilience training session, was to provide a pre and post training comparison on stress, wellbeing and resilience, and examine between group differences. Once again, the two trained groups appeared to be bearing the brunt of the organizational stressors and Group 3

was in a relatively stable part of the business. The particular stressors for Group 1 and 2 at this time included increased workload due to the new structure and previous redundancies and the presence of external consultants reviewing the current organizational structure.

Results on the stress and wellbeing measures between Time 1 and Time 3 and between-groups at Time 3 showed none of the hypothesized differences. However the two trained groups showed low levels of stress and negative affect and high levels of subjective wellbeing at Time 3 in spite of the continued organizational stressors. This finding is treated with caution as the control group also showed low levels of stress and significantly lower negative affect although this group did not appear to be exposed to the same level organizational stressors as the two trained groups.

The results showed none of the hypothesized differences for curiosity and resilient and non-resilient coping. However Group 2 (trained 2003) showed significantly higher levels of venting emotions than the other two groups. Given the context at Time 3 it is arguable as to whether venting of emotions should be considered a non-resilient style. Venting emotions about the frustrating work situation may well have worked as a helpful short-term coping strategy (Carver et al., 1989).

There was a significant difference between Times 2 and 3 on the use of planning for the trained groups. At Time 2 (August) the trained groups showed significantly higher use of planning than at Time 3 (November). This makes sense given that August was the time of more uncertainty and higher levels of planning would be more useful than in November when there was a structure in place and the stressors were different. The trained group may have adapted their coping style to suit the situation and this emphasizes the importance of context when evaluating the use of effective coping styles (Folkman & Moskowitz, 2004).

A significant difference was found between Time 2 and Time 3 for the control Group 3 on the coping style of mental disengagement. Mental disengagement was higher at Time 3 for Group 3 than at Time 2 and one possible explanation for this difference may be that while the environment for Group 3 was stable at Time 2, at Time 3 some members may have been affected by the presence of the consultants. Although this did not appear to be reflected in their slightly positive rating of the restructure impact at Time 3.

The sample size at Time 3 was larger and there were more positive correlations between the resilient coping styles, curiosity variables and the subjective wellbeing variables. Unexpectedly, denial was found to positively correlate with the problem focused styles of suppression of competing activities and restraint coping. All of these styles make sense in a context where there is minimal control and indicates that avoidance strategies such as denial may not always be

maladaptive strategies (Carver et al., 1989). Denial was also positively correlated with the subjective wellbeing measures.

The research was based on a model of individual resilience that emphasizes the role of resilience factors (cognitive, emotional, physical, spiritual) and resilient coping in relation to stress and wellbeing outcomes in the face of organizational change. Organizational change has often been found to have a detrimental effect on stress and wellbeing (Kalimo et. al., 2003). Despite the small sample size, the results provide some tentative support for the effectiveness of the resilience training in helping employees maintain low stress levels and good wellbeing levels over a period of continued organizational change.

Implications for research and practice

The present study encountered some difficulties. The sample size was small and there were difficulties getting participants to take part in all phases of the research (the sample size dropped notably in August during the Supply Chain restructure). An invitation was extended to another similar CHH business that was undergoing restructuring to take part in the research in order to provide a larger control group. This invitation was declined by management due to the high levels of stress employees were already experiencing, highlighting that not only may participants not wish to participate in research when facing job uncertainty,

but managers may be hesitant to permit research on sensitive issues during a delicate transition period.

Ideally there would have been comparable groups for experimental and control conditions at the start and throughout the research and organizational changes throughout the year would have been constant for all groups. These issues are frequently encountered with research into organizational change and reflect the challenge of research in field situations. Future research should aim to increase sample size and collect pre-training baseline data from all groups. The use of follow-up studies at 12 and 24 months is also recommended for research such as this, including follow-up with those who have left the organization. Specific measures for all aspects of physical, emotional, cognitive and spiritual resilience and testing of outcome measures at all points in time are also recommended. Although such comprehensive research is difficult in practice it will go some way to resolving the concerns about the lack of systematic evaluations of stress interventions in organizations (Beehr & O'Driscoll, 2002).

As organizational influences were not the specific focus of this study, it is difficult to ascertain how much influence organizational factors had on employee perceptions of the restructuring, resilience training effectiveness and stress and wellbeing levels. The qualitative interviews and the feedback from the restructure impact questionnaire provide some descriptive background, suggesting that upper management support, communication and clarity may have left something

to be desired, whereas at the middle management levels there were signs of effective communication, good teamwork and support for the resilience training. However, the degree of influence that these factors may have had on the outcome is purely speculative. Future research into both organizational resilience factors and individual resilience factors is recommended.

Organizational change is stressful but much can be done to ensure that employees and managers are provided with the resources to better manage change (Parker et al., 1997; Terry & Jimmieson, 2003). Future research on how to build individual resilience in the context of organizational change could go a long way towards helping both individuals and organizations to successfully navigate change.

Conclusion

What is apparent from these results is that organizational change does not always result in increased stress and decreased wellbeing levels. The employees in this study were able to maintain low levels of stress (as measured by somatic and general distress, performance difficulties and negative affect) and show high levels of wellbeing (as measured by positive affect and life satisfaction) throughout a year of restructuring and job uncertainty. They also showed levels of curiosity and coping styles that are indicative of resilient individuals.

Given the current trend of rising stress and fatigue in the New Zealand workforce and the current legislation ensuring that employers are accountable for employee stress (Walls & Darby, 2004), this research has relevance for employers looking for ways to reduce employee stress and increase wellbeing, particularly during organizational change.

The building of individual resilience within the context of organizational change, offers a strength based approach, which in line with positive psychology is all about enabling individuals and groups (organizations) to flourish in the face of adversity (Seligman & Csikszentmihalyi, 2000).

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Appendix A

Time 1 questionnaire

EVALUATION OF A WORK PLACE RESILIENCE PROGRAMME

INFORMATION SHEET

Hi everybody, most of you know me as your co-worker, but I am also a student of psychology at Massey University. As part of my thesis research and also as part of my job, I am doing an evaluation of the effectiveness of Dr. Sven Hansen's Resilience programme. This involves assessing people before and after the programme to measure the impact of the programme. I am also inviting some Ecopine employees who are not going through the Resilience programme to take part in the research (as a control group).

This research is being supervised by Dr. Stuart Carr (of the School of Psychology) at Massey University. If you have any questions concerning this research you can contact Stuart on 09 443 9900 ext. 9073.

If you agree to take part, you will need to fill in the attached questionnaire before your Wednesday 16th April Resilience session and a repeat questionnaire again in October (at the end of the programme). The questionnaire won't take long (approximately 15 minutes) and it includes an assessment of general stress levels, overall life satisfaction, basic demographic questions and a couple of questions relating to the impact of our restructure.

The questionnaires are kept confidential so you don't need to put your name on them. They are coded so that at the end of the sessions in October, you can be issued with a repeat questionnaire (with the same code) and we can measure the change between now and then. The list of names alongside each code number will be stored securely and separately from the data to maintain confidentiality. The data will be used to measure individual change over time but will not identify specific people by name. The data will be kept in a secure location at my home and will be kept for 5 years after submission of this thesis. The Questionnaires will be destroyed after the study has been completed.

Completion of the attached questionnaire is taken as consent to participate and that you agree with the conditions on this information sheet. You are under no obligation to participate and you can decline to take part in this research.

You also have the right to,

- Refuse to answer any particular questions.
- Withdraw from the study up until the point at which you hand in the 2nd questionnaire.
- Ask me any questions about the study at any time during participation.
- Provide information on the understanding that your name will not be used.
- Be given a summary of the findings at the conclusion of this study.

Important

If you find any of the issues raised in these questionnaires distressing in any way, please ask for help. Please also note that the company offers EAP counselling service, phone 09 532-8513 or mobile 021-450-242.

Thanks for helping me/ Ecopine with this research
Leanore Bullen
09 261 1805
Leanore.Bullen@chh.co.nz

QUESTIONNAIRE

Instructions

- Completion of this questionnaire indicates that you consent to participate in this research and that you agree with the conditions on the information sheet.
- All responses will be kept confidential. You may note the number of the questionnaire if you would like feedback on your scores.
- This questionnaire takes approximately 15 minutes.
- Please note there are five parts to this questionnaire.

Thanks for participating

Leanore Bullen

Part A

The following questionnaire is a standard one dealing with general stress symptoms. Please describe how much of each of the symptoms you experienced **during the past seven days (including today)**. Please use the following scale to describe how distressing you have found these things over this time.

Not at all	1
A little bit	2
Quite a bit	3
Extremely	4

Difficulty in speaking in times of excitement.	1	2	3	4
Trouble in remembering things.	1	2	3	4
Concerns about sloppiness or carelessness.	1	2	3	4
Blaming yourself for things.	1	2	3	4
Pains in the lower part of your back.	1	2	3	4
Feeling lonely.	1	2	3	4
Feeling 'blue'.	1	2	3	4
Your feelings being easily hurt.	1	2	3	4
Feeling that others do not understand you, or are unsympathetic.	1	2	3	4
Feeling that people are unfriendly, or dislike you.	1	2	3	4
Having to do things slowly, to ensure that you're doing them properly.	1	2	3	4
Feeling inferior to others.	1	2	3	4
Muscle soreness.	1	2	3	4
Having to check and double check what you do.	1	2	3	4
Occasional hot or cold spells.	1	2	3	4
Your mind occasionally going blank.	1	2	3	4
Either a numbness or tingling in your body.	1	2	3	4
A lump in your throat.	1	2	3	4
Trouble in concentrating.	1	2	3	4
Feeling of weakness in parts of your body.	1	2	3	4
Occasional 'heavy' feelings in your arms and legs.	1	2	3	4

Part B

Below are five statements with which you may agree or disagree. Using the 7 point scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7 point scale is as follows,

- 1 Strongly disagree
- 2 Disagree
- 3 Slightly disagree
- 4 Neither agree nor disagree
- 5 Slightly agree
- 6 Agree
- 7 Strongly agree

- _____ In most ways my life is close to my ideal.
- _____ The conditions of my life are excellent.
- _____ I am satisfied with my life.
- _____ So far I have gotten the important things I want in life.
- _____ If I could live my life over, I would change almost nothing.

Part C

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way over the past few weeks. Use the following scale to record your answers.

- | 1 | 2 | 3 | 4 | 5 |
|--------------------------------|----------|------------|-------------|-----------|
| Very Slightly
Or not at all | A little | Moderately | Quite a bit | Extremely |

- | | |
|--------------------|------------------|
| _____ interested | _____ irritable |
| _____ distressed | _____ alert |
| _____ excited | _____ ashamed |
| _____ upset | _____ inspired |
| _____ strong | _____ nervous |
| _____ guilty | _____ determined |
| _____ scared | _____ attentive |
| _____ hostile | _____ jittery |
| _____ enthusiastic | _____ active |
| _____ proud | _____ afraid |

Part D Demographic Questions

1. Please circle which age bracket you are in:

- 0-30 years
- 31-40
- 41-50
- 51-60
- 61+

2. Please indicate whether you are:

- Male
- Female

3. What ethnic group(s) do you identify with primarily?

4. Are you in a management position at present?

- Yes
 - No
-

Part E Restructure

A. To what extent do you feel this recent restructure has impacted on these aspects of your life: (Please use the following 5 point scale)

- | | | | | |
|-------------------|-------------------|-----------|-------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly Positive | Slightly positive | No impact | Slightly Negative | Strongly Negative |

_____ Emotional well-being

_____ Physical well-being

_____ Work/Life balance

_____ Overall satisfaction with your life

B. If the restructure has had any other impact on you (not covered by the above options) please specify..

Thank-you for taking part in this research.

Appendix B

Time 2 questionnaire

EVALUATION OF A WORK PLACE RESILIENCE PROGRAMME
INFORMATION SHEET – AUGUST 2003.

Hi Everybody,

The Resilience research continues, and those of you who participated in the research earlier this year are invited to take part again. This research is part of my thesis (through Massey University School of Psychology) and centers around the effectiveness of Dr. Sven Hansen's Resilience programme. My research supervisor is Dr. Stuart Carr (of the School of Psychology) who is contactable on 09 414 0800 ext. 9073.

I have a new questionnaire that I am adding to the existing research. It relates to the material that Sven is presenting next week (and is relevant to the research). This questionnaire takes approximately 10 minutes and measures coping skills and qualities related to Resilience. In acknowledgment of the current situation, there are also a couple of questions on the Supply Chain review.

Please note that you are under no obligation to take part, even if you completed the first questionnaire.

If you are happy to participate again, please return your completed questionnaire to me prior to your next Resilience session (18th or 19th August). This questionnaire will be issued again in November (after the Resilience sessions are finished) along with the stress and well being questionnaire.

As before, the questionnaires are kept confidential so you don't need to put your name on them. They will have a unique code on them, so that at the end of the Resilience sessions, you can be issued with a repeat questionnaire (with the same code) and we can measure the change between now and then. The list of names alongside each code number will be stored securely and separately from the data to maintain confidentiality. The data will be used to measure individual change over time but will not identify specific people by name. While I am working on my thesis, the data will be kept in a secure location at my home. After the thesis has been submitted, the data will be kept for 5 years at the university. The Questionnaires will be destroyed after the study has been completed.

The return of the completed questionnaire to me is taken as consent to participate and that you agree with the conditions on this information sheet.

You also have the right to:

- Refuse to answer any particular questions.
- Withdraw from the study up until the point at which you hand in the 2nd questionnaire.
- Ask me any questions about the study at any time during participation.
- Provide information on the understanding that your name will not be used.
- Be given a summary of the findings at the conclusion of this study.

Important

If you find any of the issues raised in these questionnaires distressing in any way, please ask for help. Please also note that the company offers EAP counselling service, phone 09 532-8513 or mobile 021-450-242.

Thank-you for helping me/ Woodproducts again with this research
Lealore Bullen
09 261 1805 VPN 96805

QUESTIONNAIRE

Instructions

- Completion of this questionnaire indicates that you consent to participate in this research and that you agree with the conditions on the information sheet (attached).
- All responses will be kept confidential. You may take a note of the code number on your questionnaire if you would like feedback on your scores.
- This questionnaire takes approximately 10 minutes and there are THREE parts to it.
- Please return the completed questionnaire to me before your August Sven session.

Thank-you, for helping me with this research

Leanore

PART A

This questionnaire asks you to indicate what *you* generally do and feel, when *you* experience stressful events. Obviously, different events bring out somewhat different responses, **but think about what you usually do when you are under a lot of stress.**

- Please treat each item separately from every other item.
- There are no right or wrong answers and your responses should indicate what you do (rather than what "most people" do).

Using the scale shown below, please respond to each of the following statements

	Please circle			
1 "I usually don't do this at all"				
2 "I usually do this a little bit"				
3 "I usually do this a medium amount"				
4 "I usually do this a lot"				
I take additional action to try and get rid of the problem.	1	2	3	4
I concentrate my efforts on doing something about it.	1	2	3	4
I do what has to be done, one step at a time.	1	2	3	4
I take direct action to get around the problem.	1	2	3	4
I try to come up with a strategy about what to do.	1	2	3	4
I make a plan of action.	1	2	3	4
I think hard about what steps to take.	1	2	3	4
I think about how I might best handle the problem.	1	2	3	4
I put aside other activities in order to concentrate on this.	1	2	3	4
I focus on dealing with this problem, and if necessary let other things slide a little.	1	2	3	4
I keep myself from getting distracted by other thoughts or activities.	1	2	3	4
I try hard to prevent other things from interfering with my efforts at dealing with this.	1	2	3	4
I force myself to wait for the right time to do something.	1	2	3	4
I hold off doing anything about it until the situation permits.	1	2	3	4
I make sure not to make matters worse by acting too soon.	1	2	3	4
I restrain myself from doing anything too quickly.	1	2	3	4
I ask people who have similar experiences what they did.	1	2	3	4
I try to get advice from someone about what to do.	1	2	3	4
I talk to someone to find out more about the situation.	1	2	3	4
I talk to someone who could do something concrete about the problem.	1	2	3	4

(PART A continues over page)

I talk to someone about how I feel.	1	2	3	4
I try to get emotional support from friends or relatives.	1	2	3	4
I discuss my feelings with someone.	1	2	3	4
I get sympathy and understanding from someone.	1	2	3	4
I look for something good in what is happening.	1	2	3	4
I try to see it in a different light, to make it seem more positive.	1	2	3	4
I learn something from the experience.	1	2	3	4
I try to grow as a person as a result of the experience.	1	2	3	4
I learn to live it.	1	2	3	4
I accept that this has happened and that it can't be changed.	1	2	3	4
I get used to the idea that it happened.	1	2	3	4
I accept the reality of the fact that it happened.	1	2	3	4
I get upset and let my emotions out.	1	2	3	4
I let my feelings out.	1	2	3	4
I feel a lot of emotional distress and I find myself expressing those feelings a lot.	1	2	3	4
I get upset, and am really aware of it.	1	2	3	4
I refuse to believe that it has happened.	1	2	3	4
I pretend that it hasn't really happened.	1	2	3	4
I act as though it hasn't even happened.	1	2	3	4
I say to myself "This isn't real".	1	2	3	4
I give up the attempt to get what I want.	1	2	3	4
I just give up trying to reach my goal.	1	2	3	4
I admit to myself that I can't deal with it and quit trying.	1	2	3	4
I reduce the amount of effort I am putting in to solving the problem.	1	2	3	4
I turn to work or other substitute activities to take my mind off things.	1	2	3	4
I go to movies or watch TV, to think about it less.	1	2	3	4
I daydream about things other than this.	1	2	3	4
I sleep more than usual.	1	2	3	4

PART B

Using the scale shown below, please respond to each of the following statements according to how you would usually describe yourself. Place the appropriate number on the line preceding that item. There are no right or wrong answers.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree or disagree			Strongly Agree

- _____ I would describe myself as someone who actively seeks as much information as I can in a new situation.
- _____ When I am participating in an activity, I tend to get so involved that I lose track of time.
- _____ I frequently find myself looking for new opportunities to grow as a person (e.g., information, people, resources).
- _____ I am *not* the type of person who probes deeply into new situations or things.
- _____ When I am actively interested in something, it takes a great deal to interrupt me.
- _____ My friends would describe me as someone who is "extremely intense" when in the middle of doing something.
- _____ Everywhere I go, I am out looking for new things or experiences.

PART C - Review

A. To what extent do you feel this recent restructure has impacted on these aspects of your life: (Please use the following 5 point scale)

1	2	3	4	5
Strongly Positive	Slightly positive	No impact	Slightly Negative	Strongly Negative

- _____ Emotional well-being
- _____ Physical well-being
- _____ Work/Life balance
- _____ Overall satisfaction with your life

B. If the restructure has had any other impact on you (not covered by the above options) please specify..

Thank-you for taking part in this research.

Appendix C

Time 3 questionnaire

EVALUATION OF A WORK PLACE RESILIENCE PROGRAMME

INFORMATION SHEET

Hi everybody, this is the final part of the Resilience research evaluating the effectiveness of Dr. Sven Hansen's Resilience programme. This involves re-assessing you now that the Resilience programme has finished to measure the impact of the programme. Woodproduct's employees who have not been through the Resilience programme are also taking part (as a control group).

The research is being supervised by Dr. Dianne Gardner (of the School of Psychology) at Massey University. If you have any questions concerning this research you can contact Dianne on 09 414 0800 ext. 9057.

The questionnaire takes 15 minutes and has TWO sections. The first section is a repeat of the April stress and well-being questionnaire for all of you to complete. It has four parts to it including some questions on the impact of the current Woodproducts structure. The second section (two parts to it) is optional. It is a repeat of the August Resilience questionnaire for those who completed it. If you did not complete the August questionnaire, you are still welcome to complete this section.

As before, the questionnaires are kept confidential so you don't need to put your name on them. They are coded so that change can be measured between the earlier scores and the final scores. The list of names alongside each code number will be stored securely and separately from the data to maintain confidentiality. The data will be used to measure individual change over time but will not identify specific people by name. The data will be kept in a secure location at my home and will be kept for 5 years after submission of this thesis. The Questionnaires will be destroyed after the study has been completed.

Completion of the attached questionnaire is taken as consent to participate and that you agree with the conditions on this information sheet. You are under no obligation to participate and you can decline to take part in this research.

You also have the right to,

- Refuse to answer any particular questions.
- Withdraw from the study up until the point at which you hand in this final questionnaire.
- Ask me any questions about the study at any time during participation.
- Provide information on the understanding that your name will not be used.
- Be given a summary of the findings at the conclusion of this study.

Important

If you find any of the issues raised in these questionnaires distressing in any way, please ask for help. Please also note that the company offers EAP counselling service, phone 09 532-8513 or mobile 021-450-242.

Thanks for helping me with this research

Leanore Bullen
Mobile: 027 427 8286
lbullen@ihug.co.nz

This project has been reviewed and approved by the Massey University Human Ethics Committee, ALB Protocol 03/014. If you have any concerns about the conduct of this research, please contact Professor Brian Murphy, Chair, Massey University Campus Human Ethics Committee: Albany, telephone 414 0800 x 9251, email B.Murphy@massey.ac.nz

QUESTIONNAIRE

Instructions

Completion of this final questionnaire indicates that you consent to participate in this research and that you agree with the conditions on the information sheet. All responses will be kept confidential. If you would like feedback on your personal scores, email me on lbullen@ihug.co.nz (You do not need to put your name on the questionnaire).

The questionnaire takes approximately 15 minutes and has TWO sections. Section one is a repeat of the April stress and well-being questionnaire for you all to complete. It has four parts to it, including some questions on the new structure.

Section two is optional. It is a repeat of the August Resilience questionnaire for those who completed it. If you did not complete the August questionnaire you are still welcome to complete this section. There are two parts to it.

Please return your completed questionnaires to me (or to the box at xxxx xxxxx's desk).

Many thanks for helping me with this research.

Leanore Bullen
Mobile: 027 427 8286

SECTION ONE

PART A

The following questionnaire is a standard one dealing with general stress symptoms. Please describe how much of each of the symptoms you experienced **during the past seven days (including today)**. Please use the following scale to describe how distressing you have found these things over this time.

Not at all	1
A little bit	2
Quite a bit	3
Extremely	4

Difficulty in speaking in times of excitement.	1	2	3	4
Trouble in remembering things.	1	2	3	4
Concerns about sloppiness or carelessness.	1	2	3	4
Blaming yourself for things.	1	2	3	4
Pains in the lower part of your back.	1	2	3	4
Feeling lonely.	1	2	3	4
Feeling 'blue'.	1	2	3	4
Your feelings being easily hurt.	1	2	3	4
Feeling that others do not understand you, or are unsympathetic.	1	2	3	4
Feeling that people are unfriendly, or dislike you.	1	2	3	4
Having to do things slowly, to ensure that you're doing them properly.	1	2	3	4
Feeling inferior to others.	1	2	3	4
Muscle soreness.	1	2	3	4
Having to check and double check what you do.	1	2	3	4
Occasional hot or cold spells.	1	2	3	4
Your mind occasionally going blank.	1	2	3	4
Either a numbness or tingling in your body.	1	2	3	4
A lump in your throat.	1	2	3	4
Trouble in concentrating.	1	2	3	4
Feeling of weakness in parts of your body.	1	2	3	4
Occasional 'heavy' feelings in your arms and legs.	1	2	3	4

PART B

Below are five statements with which you may agree or disagree. Using the 7 point scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7 point scale is as follows,

- 1 Strongly disagree
- 2 Disagree
- 3 Slightly disagree
- 4 Neither agree nor disagree
- 5 Slightly agree
- 6 Agree
- 7 Strongly agree

- _____ In most ways my life is close to my ideal.
- _____ The conditions of my life are excellent.
- _____ I am satisfied with my life.
- _____ So far I have gotten the important things I want in life.
- _____ If I could live my life over, I would change almost nothing.

PART C

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way over the past few weeks. Use the following scale to record your answers.

- | 1 | 2 | 3 | 4 | 5 |
|--------------------------------|----------|------------|----------------|-----------|
| Very Slightly
or not at all | A little | Moderately | Quite a bit | Extremely |
| ___ interested | | | ___ irritable | |
| ___ distressed | | | ___ alert | |
| ___ excited | | | ___ ashamed | |
| ___ upset | | | ___ inspired | |
| ___ strong | | | ___ nervous | |
| ___ guilty | | | ___ determined | |
| ___ scared | | | ___ attentive | |
| ___ hostile | | | ___ jittery | |
| ___ enthusiastic | | | ___ active | |
| ___ proud | | | ___ afraid | |

PART D – Woodproducts Structure (Manukau)

- A. What impact is the current structure at Woodproducts Manukau having on the following areas of your life? (If you are no longer with WP Manukau please use your current situation).

Please use the following 5 point scale.

1	2	3	4	5
Strongly Positive	Slightly Positive	No Impact	Slightly Negative	Strongly Negative

- ___ Emotional Well-being
- ___ Physical Well-being
- ___ Work/Life balance
- ___ Overall satisfaction with your life

- B. If the current structure at WP Manukau is having any other impact on your well-being, please comment.
-

SECTION TWO

PART E

This questionnaire asks you to indicate what *you* generally do and feel, when *you* experience stressful events. Obviously, different events bring out somewhat different responses, **but think about what you usually do when you are under a lot of stress.**

- Please treat each item separately from every other item.
- There are no right or wrong answers and your responses should indicate what you do (rather than what "most people" do).

Using the scale shown below, please respond to each of the following statements

- 1 "I usually don't do this at all"**
- 2 "I usually do this a little bit"**
- 3 "I usually do this a medium amount"**
- 4 "I usually do this a lot"**

Please circle

I take additional action to try and get rid of the problem.	1	2	3	4
I concentrate my efforts on doing something about it.	1	2	3	4
I do what has to be done, one step at a time.	1	2	3	4
I take direct action to get around the problem.	1	2	3	4
I try to come up with a strategy about what to do.	1	2	3	4
I make a plan of action.	1	2	3	4
I think hard about what steps to take.	1	2	3	4
I think about how I might best handle the problem.	1	2	3	4
I put aside other activities in order to concentrate on this.	1	2	3	4
I focus on dealing with this problem, and if necessary let other things slide a little.	1	2	3	4
I keep myself from getting distracted by other thoughts or activities.	1	2	3	4
I try hard to prevent other things from interfering with my efforts at dealing with this.	1	2	3	4
I force myself to wait for the right time to do something.	1	2	3	4
I hold off doing anything about it until the situation permits.	1	2	3	4
I make sure not to make matters worse by acting too soon.	1	2	3	4
I restrain myself from doing anything too quickly.	1	2	3	4
I ask people who have similar experiences what they did.	1	2	3	4
I try to get advice from someone about what to do.	1	2	3	4
I talk to someone to find out more about the situation.	1	2	3	4
I talk to someone who could do something concrete about the problem.	1	2	3	4

(PART E continues over page)

I talk to someone about how I feel.	1	2	3	4
I try to get emotional support from friends or relatives.	1	2	3	4
I discuss my feelings with someone.	1	2	3	4
I get sympathy and understanding from someone.	1	2	3	4
I look for something good in what is happening.	1	2	3	4
I try to see it in a different light, to make it seem more positive.	1	2	3	4
I learn something from the experience.	1	2	3	4
I try to grow as a person as a result of the experience.	1	2	3	4
I learn to live it.	1	2	3	4
I accept that this has happened and that it can't be changed.	1	2	3	4
I get used to the idea that it happened.	1	2	3	4
I accept the reality of the fact that it happened.	1	2	3	4
I get upset and let my emotions out.	1	2	3	4
I let my feelings out.	1	2	3	4
I feel a lot of emotional distress and I find myself expressing those feelings a lot.	1	2	3	4
I get upset, and am really aware of it.	1	2	3	4
I refuse to believe that it has happened.	1	2	3	4
I pretend that it hasn't really happened.	1	2	3	4
I act as though it hasn't even happened.	1	2	3	4
I say to myself "This isn't real".	1	2	3	4
I give up the attempt to get what I want.	1	2	3	4
I just give up trying to reach my goal.	1	2	3	4
I admit to myself that I can't deal with it and quit trying.	1	2	3	4
I reduce the amount of effort I am putting in to solving the problem.	1	2	3	4
I turn to work or other substitute activities to take my mind off things.	1	2	3	4
I go to movies or watch TV, to think about it less.	1	2	3	4
I daydream about things other than this.	1	2	3	4
I sleep more than usual.	1	2	3	4

PART F

Using the scale shown below, please respond to each of the following statements according to how you would usually describe yourself. Place the appropriate number on the line preceding that item. There are no right or wrong answers.

1	2	3	4	5	6	7
Strongly Disagree			Neither Agree or disagree			Strongly Agree

- _____ I would describe myself as someone who actively seeks as much information as I can in a new situation.
- _____ When I am participating in an activity, I tend to get so involved that I lose track of time.
- _____ I frequently find myself looking for new opportunities to grow as a person (e.g., information, people, resources).
- _____ I am *not* the type of person who probes deeply into new situations or things.
- _____ When I am actively interested in something, it takes a great deal to interrupt me.
- _____ My friends would describe me as someone who is "extremely intense" when in the middle of doing something.
- _____ Everywhere I go, I am out looking for new things or experiences.

Thank-you, for helping me with this research.

Appendix D

Time 3 Qualitative interview questions

EVALUATION OF A WORK PLACE RESILIENCE PROGRAMME**EXTENSION OF RESEARCH****INFORMATION SHEET**

Hi Everybody,

In addition to the Resilience research already underway, a few of you are being invited to participate in a short interview. This interview is an extension on the previous research and is to provide information on the work environment in which the Resilience research has taken place. The work context is important to note as it may influence the results of the Resilience research.

Participation in this interview is totally voluntary. You are under no obligation to participate even if you have already participated in the survey research.

The terms and conditions of the research are the same as previous including the condition of confidentiality. Individual names will not be used.

There is a consent form for you to sign, which indicates that you agree to take part in the interview and that you agree with the conditions on this information sheet. The interview will take approximately 15-20 minutes and consists of seven questions.

Thanks for helping me with this research
Leanore Bullen
Mobile: 027 427 8286
lbullen@ihug.co.nz

The research is being supervised by Dr. Dianne Gardner (of the School of Psychology) at Massey University. If you have any questions concerning this research you can contact Dianne on 09 414 0800 ext. 9057.

Interview questions (participants responses to be recorded manually by the interviewer)

1. At the time of the November questionnaire, there was a lot happening. Can you tell me a bit about that?

(If necessary to prompt - mention Sales and marketing review, Commerce Commission enquiry and closure of the Tokoroa Sawmill).

2. What impact do you think these changes may have had on employees?

3. Have some groups of people been more affected by these changes than others?

4. Has there been anything that has helped to lesson the impact of these changes on staff?

5. If you were to reflect for a moment on the November environment compared with the restructure environment in April (when participants were first tested) would you describe the November situation as better, about the same or worse than at the time of the April restructure?

6. If you were to reflect for a moment on the November environment compared to August (Supply Chain review) would you describe the November situation as better, about the same or worse than at the time of the August review?

7. Are there any other comments that you would like to make (about the context in which the training and research has taken place)?