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## **Burnout in academics : the role of humour and optimism as stress buffers**

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**BURNOUT IN ACADEMICS:  
THE ROLE OF HUMOUR AND OPTIMISM  
AS STRESS BUFFERS**

BY

Natalie R. Fairclough

A Thesis Submitted in Partial Fulfillment of the  
Requirements for the Award of

Master of Psychology (Clinical)

At the Faculty of Health and Human Sciences

Edith Cowan University

Date of Submission: 6 November, 1998

### Abstract

The relationship between university lecturers' perceived stress, use of humour to cope with stress, optimism, pessimism, and burnout was investigated. Participants included 180 lecturers from a range of Perth universities and disciplines.

Questionnaire packages were delivered to the participants at their universities and were later returned to the researcher by mail. A principle components analysis was first performed on the Life Orientation Test- Revised, a self-report instrument designed to measure optimism, and demonstrated support for a two-dimensional model of optimism and pessimism. A hierarchical multiple regression analysis was subsequently conducted to determine the ability of perceived stress, humour, optimism, and pessimism, followed by the interactions between perceived stress and humour, optimism, and pessimism, and then gender to predict lecturers' burnout.

The results revealed that after perceived stress had been accounted for, humour and optimism had a significant main effect on burnout. Pessimism and gender were not significant unique predictors of burnout. The interactions between perceived stress and humour, optimism, and pessimism did not predict burnout. The findings highlight the role of humour and optimism in predicting burnout, and the implications for burnout prevention strategies.

## DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;
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Signed...

.....

Date: 6 November, 1998

## DEDICATION

I dedicate this thesis to my beloved mum, Blanche Fairclough.

You are not only my best friend but you are an inspiration to me in more ways than you would ever imagine. I love you mum.

## ACKNOWLEDGMENTS

I would like to thank you, Dr Susan Gee, for all your help throughout your supervision of my thesis. I feel that I cannot thank you enough for your continuous energy, enthusiasm, and encouragement. You gave me the strength and confidence to pursue, even in my most anxious times.

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## CHAPTER ONE

### Introduction

Chapter One is divided into five main sections. To place the present study in context, this chapter opens by reviewing the theories of stress and, in particular, the theory of stress that is adopted for the purpose of the present study. The second section will provide an overview of how humour may help to moderate the effects of stress and the research that has investigated the relationship between humour and physical and psychological well-being. This will be followed by the third section, which will examine previous research that has focused on the relationship between optimism and physical and psychological well-being, as well as the mechanisms by which optimism may help to moderate the effects of stress.

The fourth section will focus on the area of burnout. In particular, this focus will include an outline of the constituents and consequences of burnout, as well as how university academics are particularly vulnerable to the burnout experience. The final section will conclude with an outline of the present study, its improvements from previous research, and the hypotheses to be tested.

### Theories of Stress

In the last three decades, stress has become a subject of popularity amongst psychologists. It has captured the attention of many researchers and most health psychology textbooks would include at least one chapter (if not several) dedicated to the topic of stress. Despite its increasing attention, stress seems to be an elusive term to conceptualize. There appears to be three basic perspectives on stress that are most frequently encountered in the literature.

The 'stimulus' perspective purports that certain events are likely to produce feelings of tension and upset. This view assumes that different people respond similarly to given events and that the experience of stress is dependent on the events that occur in people's lives (Bishop, 1994). Thus, according to this view, stress is the environmental stimuli.

Alternatively, the 'response' perspective focuses on the physiological reactions that people experience when faced with stressful situations. Hans Selye (cited in Bishop, 1994) was influential in this area. Selye viewed stress as a physiological response that was associated with the process of adaptation. The body's efforts to adapt to internal or external events produce the characteristic pattern of somatic responses, including the release of various hormones and changes in the heart rate, blood pressure, respiration, and gastrointestinal activity. Accordingly, stress is the physiological response to any demands made upon it to adapt (Allen, 1983).

A third perspective indicates that neither a stimulus- nor a response-based approach is adequate. Instead, stress is more effectively understood as a process that incorporates both the events experienced and the psychological and physiological responses to those events. This view purports that the critical determinant of stress is the way in which the individual perceives and responds to different events. Of importance is not the event itself, but how the event is interpreted. This 'transactional' approach is well represented by Lazarus and Folkman's (1984) widely used definition of stress. They define stress as "the relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman,

1984, p.21). This definition highlights two critical factors that characterize the concept of stress.

Firstly, it suggests that in order to be stressed, an interaction must occur between the individual and his or her environment. Lazarus and colleagues (for example, Lazarus and Folkman, 1984) speak of three types of environmental stressors. The first type includes 'cataclysmic' and universally stressful events. Included are natural disasters, such as floods and earthquakes, and manufactured disasters, such as war. Not only are cataclysmic events particularly challenging to individuals, they are likely to have substantial effects on people's health and well-being. A second type includes personal stressors, otherwise known as negative life events. These include major life changes, such as the death of a loved one, a life threatening illness, or the loss of a job. These stressors can have serious implications primarily because their personal nature often preclude social support, a factor that has been found to be useful in helping people to deal with stress (Carroll, 1992). The third type of stressors includes 'daily hassles'. This refers to the daily events that often cause people to feel irritated and distressed. While they may not be as powerful as cataclysmic events or personal stressors, daily hassles are omnipresent. Although they may involve lower levels of magnitude or challenge, daily hassles tend to be more frequent and persistent. Thus, their chronicity can contribute as much to physical and psychological health (Lazarus & Folkman, 1984).

The second critical factor pertaining to Lazarus and Folkman's (1984) definition of stress is that for any of these stressors to cause stress for the individual, he or she needs to cognitively appraise them as being stressful (Lazarus, Mantarazzo, Melamed, & Schwartz, 1984; Newberry, Jaikins-Madden, &



Gerstenberger, 1991; Spielberger & Sarason, 1978). Lazarus and Folkman (1984) purport that perceiving an event to be stressful depends on two types of cognitive appraisals. The first type is referred to as 'primary appraisal', which is the appraisal of the degree of possible harm, threat, or benefit presented by an event. A stress appraisal is a judgment that harm has occurred or is threatened, or that there is a challenge, which, if mastered, will result in benefits to the individual (Janisse, 1988; Newberry et al., 1991). Therefore, an individual who perceives a situation to be dangerous or threatening will view it as stressful.

The second type of cognitive appraisal described by Lazarus and Folkman (1984) is 'secondary appraisal'. Secondary appraisal is the process of deciding upon a course of action that will maximize well-being in dealing with a stressful situation. The individual assesses the probability of success of various actions and the likelihood that he or she can successfully execute them. Thus, secondary appraisal involves assessing one's resources for coping with a threat or challenge. Briefly, Newberry et al. (1991) speak of three types of resources including personal resources (for example, one's biological or psychological makeup), material resources (for example, one's financial means), and social resources (for example, one's social network).

These two types of cognitive appraisals imply that an event, which is perceived as threatening and beyond our coping ability, is likely to cause us to feel stressed. Stress is therefore a highly subjective experience. Lazarus and Folkman's (1984) definition of stress has become increasingly popular because it effectively illustrates the concept of stress from a broader biopsychosocial perspective, emphasizing the influence of environmental factors and cognitive appraisals on

psychological and physiological responses. It will become evident that an accurate conceptualization of this definition of stress is important for an appreciation of the present study.

A relatively large proportion of research has substantiated the relationship between stress and stressful life events and both physical disorders and psychological disorders, such as depression and anxiety (Martin & Lefcourt, 1983; Nezu, Nezu, & Blissett, 1988). However, attention has more recently focused on the potential for specific individual characteristics to alleviate the effects of potential stressors. Two such variables are humour and optimism.

### Humour

A widely held belief in our society is that laughter is the best medicine. This seems to be matched with the growing interest in the concept of humour that has occurred over the last two decades. In fact, several authors have dedicated their books to the topic of humour and laughter. Some of these have been academic in their approach (Goldstein & McGhee, 1972; McGhee, 1979), whilst others have been oriented toward self-help with the aim of teaching readers how to use humour to cope with problems in life (McGuire, Boyd, & James, 1992).

At this point, it is worth distinguishing between the concepts of humour and laughter. As laughter usually accompanies the humour experience, the two terms are often difficult to distinguish. The Macquarie dictionary defines humour as “the faculty of perceiving what is amused or comical.... the faculty of expressing the amusing or comical” (Delbridge, Bernard, Blair, Peters, & Butler, 1991, p.860). On the other hand, laughter is defined as the expression of “mirth, amusement, derision,

etc by an explosive, inarticulate sound of the voice, facial expressions etc” (Delbridge et al., 1991, p.1002). These definitions have been further supported by Lefcourt and Martin (1986), who state that whilst the term humour relates to perceptual, cognitive, and emotional processes, the term laughter relates to the physiological and behavioural components. One can be amused but not laugh. There are also many non-humorous causes of laughter. Giles and Oxford (cited in McGhee, 1979) listed some conditions in which seven distinctive forms of laughter might occur. These conditions included humorous, social, ignorance, anxiety, derision, apologetic, and tickling. Their list emphasizes the point that laughter can be representative of various states of mind. In spite of these distinctions, however, laughter is often described in the literature as the overt expression of humour. The purpose of this discussion is to emphasize that although the two terms are linked at times, humour and laughter are in fact quite separate entities. It should be noted that the following theories of humour have used the concepts of humour and laughter relatively interchangeably, which contributes to the existing confusion about the identity of the two concepts. However, the primary focus of the present paper is on humour as an independent construct.

How humour can serve as a stress moderator is not entirely clear. Some theories have been purported which, although still in their formative years of development, provide an interesting framework from which we can begin to understand the stress-buffering effects of humour. Lefcourt and Martin (1986) categorized the theories into three main types: arousal, superiority, and incongruity theories. It should be recognized that these theories of humour not only differ in the ways they attempt to account for their relationship to laughter, but they also differ in

the degree to which they focus on cognitive and emotional aspects of humour. According to Freud (cited in Lefcourt & Martin, 1986), whose theory of humour falls within the category of the arousal theories, the function of laughter is to release excess energy and tension. All forms of mirthful experience represent a saving of psychic energy which, having become unnecessary for its normal purposes, is dissipated in laughter form. Thus, according to this psychodynamic perspective, laughter is seen as a discharge mechanism for surplus nervous energy (Grumet, 1989). A somewhat dissimilar view that falls within the realm of the arousal theories is the 'reversal' theory. This theory states that humour and laughter are therapeutic, not because they reduce one's level of arousal and tension, but because they allow one to experience the arousal and tension in such a way that they are not experienced as negative and aversive (Lefcourt & Martin, 1986).

The second category of humour theories, superiority theory, postulates that humour stems from a sense of superiority derived from the mockery of another person. Thus, elation results when we compare ourselves favorably to others. This principle states that mockery, ridicule, and laughter at the foolish actions or traits of others are central to the human experience (Goldstein & McGhee, 1972) and that humour may be therapeutic to the extent that it enhances one's self-esteem and feelings of competence in the face of external threat. The beneficial effects of humour stem from the enhanced feelings of self-esteem, mastery, and confidence, and the reduced feelings of threat that accompany a humorous approach to a potentially stressful situation (Lefcourt & Martin, 1986).

The third type of humour theory, incongruity theory, focuses on the cognitive elements of humour. According to this perspective, the use of humour in any

situation involves making quick cognitive shifts in frames of reference (McGuire et al., 1992). A sense of humour may mitigate the effects of stress in at least two ways. First, individuals who generally respond to life in a humorous manner may be less likely to appraise their environment as threatening, and therefore experience less stress in their lives compared to those who have less of a sense of humour. Secondly, in stressful situations, individuals with a sense of humour may be able to cope more effectively by making benign reappraisals of the stressors (Kuiper, Martin, & Olinger, 1993). Overall, this perspective emphasizes that individuals who use humour in stressful times are able to emotionally distance themselves from the immediate threat of a problem situation. Whereas the arousal theories emphasize the way in which humour and laughter alter either the perception or the level of stress-related arousal, the incongruity theory emphasizes the way in which humour changes one's perception of the stressful situation, so that it becomes less stressful and consequently less arousing (Lefcourt & Martin, 1986). The incongruity theory is therefore more consistent with the definition of stress that has been outlined above, which highlights the importance of one's appraisals for the subjective experience of stress.

Recent research has supported this cognitive perspective. Kuiper et al. (1993) conducted an investigation to determine the ways in which cognitive appraisals differed between 44 university students with high and low levels of sense of humour when faced with an academic examination, an experience that the researchers hypothesized to be potentially stressful. They found that prior to the examination, although humour did not significantly correlate with the students' expected marks, negative threat ratings, or personal importance, higher humour scores were

significantly associated with greater positive challenge ratings ( $r = .31$ ). Immediately after the exam, higher humour scores were again associated with greater positive challenge ratings ( $r = .29$ ) but remained unrelated to negative threat and personal importance judgments. Actual-expected performance discrepancy scores were calculated for each student by subtracting their expected mark rating (before completing the exam) from their actual mark on the exam. A hierarchical multiple regression analysis revealed that after accounting for actual-expected performance discrepancies, coping humour was a significant predictor of positive challenge appraisals. In summary, individuals with higher levels of humour perceived the exam to be more of a positive challenge and this pattern was evident both prior to the exam and immediately afterward. These results have been replicated by Kuiper, McKenzie, and Belanger (1995) who investigated the relationship between sense of humour and cognitive appraisals among 81 university students. Findings showed that both before and after completing drawing tasks, students with a higher level of humour also had higher positive challenge ratings and lower threat appraisals.

Researchers have begun to investigate the benefit of humour to both physical well-being and psychological well-being. The research that has focused on humour and physical well-being will be firstly discussed. This will be followed by a more detailed examination of the research that has investigated the relationship between humour and psychological well-being. Due to the existing confusion about the way in which humour should be viewed, the different humour measures that researchers have used in their investigations will be described in some detail.

The benefit of humour to physical health has received the attention of very few researchers. Carroll and Schmidt (1992) conducted a study to examine the

relationship between health, which was measured on a 13-item health inventory composed of items from the Cornell Index, and humorous coping style. Participants included 51 college students. The Situational Humour Response Questionnaire, which was developed by Lefcourt and Martin (1986), was used to assess humour. In creating this scale, Lefcourt and Martin (1986) defined sense of humour as the frequency with which the individual smiles, laughs, or displays amusement in a variety of situations. Briefly, the scale consists of 21 items. The first 18 items each describe a particular situation ranging from pleasant to unpleasant and respondents are instructed to recall a time when they were in the same situation or to imagine themselves in the situation. Respondents indicate the degree of mirth that they would experience in response to the situations, from “not being amused at all” to “laughing heartily”. Assuming that people who tend to laugh and smile seek out similar people as friends, item 19 on the scale asks how important it is for the respondent to have friends who are easily amused. Item 20 is a direct self-rating question in which respondents are asked to estimate the frequency with which they smile and laugh relative to the average person. Item 21 asks the respondents how their expression of humour varies from one situation to another (Lefcourt & Martin, 1986).

Overall, Carroll and Shmidt (1992) found a significant inverse correlation ( $r = -.34$ ) between health and humour. Although this correlation coefficient was only moderate in size, their result suggests that people who use humour as a coping strategy have fewer health problems than those who do not use humour. However, as with all correlational designs, it is difficult to determine the direction of causality. It is uncertain whether higher levels of humour caused fewer health problems, or

alternatively, whether fewer health problems caused the participants to have higher levels of humour.

Prerost (1993) conducted an investigation to examine the usefulness of the exposure to humour as an adjunct to biofeedback training. Eighty participants were firstly measured on locus of control using Rotter's Scale and then categorized as being internal or external in orientation. The participants were then exposed to either a humour or non-humour condition. In the humour condition, a series of 25 cartoons were viewed. In the non-humour condition, a series of slides depicting forest scenery were viewed. Relaxation scores were then recorded from readings on a biofeedback device that monitored the participants' muscular activity. These readings were taken at 5- minute intervals. Overall, the results showed an interaction between locus of control and the humour condition. It was found that, in comparison to external locus of control participants, internal scoring participants had significantly lower levels of tension and the humour condition significantly produced more relaxation than the non-humour condition for these internal scoring participants. Therefore, these results suggest that, particularly for individuals with an internal locus of control orientation, the exposure to a humorous condition enables the release of muscular tension and a state of relaxation.

The above two studies suggest that the use of humour is associated with physical well-being. A somewhat larger proportion of research has addressed the relationship between humour and psychological well-being, and, in particular, the potential for humour to moderate the effects of stress. Safranek and Schill (1982) examined whether the use and appreciation of humour could help to moderate the effects of life stress amongst 161 university students. The participants were



administered Sarason's Life Events Survey to assess the degree of life stress experienced during the past year. The Humour Use Inventory, which was designed by Angell (cited in Safranek & Schill, 1982), was used to measure how frequently and how funny the participants try to be in different situations. Humour appreciation was assessed by asking participants to rate the degree of funniness of five categories of jokes. These included nonsense, sick, ridicule, hostile, and sexual. Beck's Depression Inventory and Spielberger's State-Trait Anxiety Inventory were administered to measure participants' psychological distress.

Pearson correlations revealed that stress was significantly correlated with depression and state and trait anxiety. Humour appreciation was significantly negatively correlated with life events ( $r = -.30$ ) and with depression scores ( $r = -.24$ ) for females. However, separate hierarchical regression analyzes revealed that humour use and humour appreciation did not significantly improve the prediction of either anxiety and depression beyond that provided by life events alone. Although these results do not substantiate the stress-buffering hypothesis of humour, other researchers have found opposing results.

Martin and Lefcourt (1983) conducted three studies to investigate the stress-moderating effect of humour among university students. In all three studies, a negative life events checklist (developed by the researchers) was used to indicate the level of stress that the participants had experienced in their lives during the preceding year. The Profile of Mood States scale was administered to assess mood disturbance, including tension, depression, anger, fatigue, and confusion.

In the first study, which included 56 participants, humour was assessed by three measures: the Situational Humour Response Questionnaire (as used by Carroll

& Shmidt, 1992), the Sense of Humour Questionnaire, and the Coping Humour Scale. The first measure, the Situational Humour Response Questionnaire, has already been described earlier. The second measure, the Sense of Humour Questionnaire, is a 21-item scale, which was developed in 1974 by Svebak (cited in Lefcourt & Martin, 1986) to assess individual differences in humour production and humour appreciation. The scale includes three sub-scales. The first sub-scale, Meta-Message Sensitivity, measures the degree to which respondents notice humorous stimuli in their environment. The second sub-scale, Personal Liking of Humour, assesses the degree to which respondents value humour in their lives, whilst the third sub-scale, Emotional Expressiveness, is concerned with the degree to which participants express their emotions, including humour (Martin & Lefcourt, 1983). Like the Situational Humour Response Questionnaire, the Sense of Humour Questionnaire was designed to assess people's overall sense of humour, regardless of its role in coping with stress. Conversely, the third measure used, the Coping Humour Scale, a short 7-item scale created by Martin and Lefcourt (1983), assesses the degree to which people use humour to cope with stressful experiences in their lives.

In all three studies, the data was subjected to a hierarchical multiple regression analysis. In terms of the predictor variables, negative life events was entered first, then the measure of humour, followed by their interaction. In each study, the dependent variable included mood disturbance. In the first study, using the Situational Humour Response Questionnaire, humour did not significantly predict mood disturbance after life events had been accounted for. However, a significant positive increment was obtained when the interaction of negative life events and

humour scores was added, suggesting that humour had a moderating effect on the relation between negative life events and mood disturbance. In relation to the Sense of Humour Questionnaire, the Meta-Message Sensitivity sub-scale showed no moderating effect, although Personal Liking of Humour was a significant unique predictor of mood disturbance, and the interaction between this sub-scale and negative life events was also significant. The product of negative life events and Coping Humour Scale scores revealed a significant increment of .09 (Martin & Lefcourt, 1983). Therefore, Personal Liking of Humour was the only significant unique predictor of mood disturbance. However, in relation to this sub-scale, as well as the Coping Humour Scale and the Situational Humour Response Questionnaire, the findings imply that humour moderates the relationship between negative life events and mood disturbance.

To avoid the possible biases associated with self-report measures, Martin and Lefcourt's (1983) second study involved a behavioural assessment of the participants' ability to produce humour. This involved exposing 62 of the students to miscellaneous objects and instructing them to make up a 3-minute comedy routine by describing the objects in as humorous a manner as possible. The tape-recorded responses were scored according to the number of witty remarks and overall humour. Findings showed that although humour production did not significantly predict mood disturbance, the interaction between humour production and negative life events produced a significant  $R^2$  increment of .09. This suggests that the relationship between humour production and disturbed mood is perhaps better understood in terms of an interaction with stressful life events.

In the third study, 25 of the students were asked to view a potentially stressful silent film about male initiation rites among a tribe of Aborigines and, at the same time, construct a humorous narrative to describe the events in the film. The tape-recorded narratives were scored for overall humorousness. Results indicated that the product of humorousness ratings and negative life events yielded a significant increment of .22, suggesting that humour had a significant moderating effect on the relation between negative life events and current levels of mood disturbance. Overall, Martin and Lefcourt's (1983) findings indicated that there is not a simple relation between sense of humour or use of humour and disturbed moods. Instead, this relation is more meaningfully understood in terms of an interaction with stressful experiences, suggesting that humour buffers people from the harmful effects of stress.

One problem with the research discussed so far relates to the limitation of cross-sectional research. Each of the above studies measured the variables of interest at only one time. With this approach, the researchers were not only unable to determine the direction of causality (that is, whether high humour levels cause better psychological well-being, or vice versa), the researchers were also unable to measure any changes on the outcome measures over time. Several researchers have rectified this problem by conducting longitudinal research in the area of humour and psychological health.

For example, Nezu et al. (1988) investigated the stress-buffering hypothesis of humour by assessing whether humour could predict depression and anxiety, after stress (negative life events assessed by the Life Events Survey) had been controlled for. By using a prospective design, the investigators could control for prior levels of

distress, which had the potential to confound interpretations concerning the actual influence of stressful life events on psychological functioning. Depression was measured by the Beck Depression Inventory, whilst anxiety was assessed by the Trait Scale of the State-Trait Anxiety Inventory. Both the Coping Humour Scale and Situational Humour Response Questionnaire were used to measure humour.

At the first testing time, the 87 university students completed the Life Events Survey, Beck Depression Inventory, Trait Anxiety Scale, and the two humour scales. At the second testing time, which occurred two months later, participants again completed the Life Events Survey, and the anxiety and depression measures.

Although at both testing times humour appeared to be unrelated to anxiety scores, different results were shown with depression. Hierarchical regression analyses suggested that, at time 1 and time 2, humour and the stress by humour interactions significantly predicted depression scores. This finding was held for each humour measure used in the study. The results therefore suggest that humour may serve as a buffer of depressive symptoms that might result as a function of experiencing negative life events, even after previous levels of distress have been controlled for. Deaner and McConatha (1993) found similar results in their cross-sectional study of 129 college students. Individuals who used humour to cope with stress scored lower on depression ( $r = -.19$ ). Although the correlation is not particularly strong, the result does add further support to the contention that an inverse relationship exists between humour and depression.

On a sample of ninety-six students, Overholser (1992) also conducted a prospective design to determine the relationship between stress (measured by the Life Events Survey), humour, and psychological adjustment, including depression,

loneliness, and self-esteem (measured by the Beck Depression Inventory, the UCLA Loneliness Scale, and the Rosenberg Self-Esteem Scale, respectively). Humour was measured using the Humour Appreciation Scale, which consisted of 14 captioned cartoons to be rated on a 5-point scale from Not Funny At All to Very Funny. The study also used Humour Creativity Ratings, which consisted of eight cartoons without captions. Each cartoon was a drawing of a stressful situation, for which participants were asked to provide a humorous caption. The Coping Humour Scale was also administered.

Reassessments occurred after seven weeks, in which the same measures were administered. A series of multiple regression analyses were performed to examine the relationship between humour and psychological adjustment. In each analysis, age was entered first as a covariate. Stress was then added to the model, followed by the different humour measures in a stepwise fashion, and lastly the stress by humour interactions. The analysis was conducted separately to predict each criterion variable, including depression, loneliness, and self-esteem.

Each of the three humour measures showed a similar pattern of results. At time 1, findings indicated that coping humour, in particular, was significantly inversely related to depression and loneliness and positively related to self-esteem. The results suggested that the participants who reported using humour to cope with stressful situations were less depressed, less lonely, and had higher self-esteem. Humour was also significantly predictive of depression (in females only), self-esteem, and loneliness. However, the results at time 2 were incongruent with Nezu et al's. (1988) findings. Humour was not significantly related to depression,

nor was it significantly predictive of loneliness or self-esteem, in both males and females.

The above studies have demonstrated a range of conflicting results. Safranek and Schill (1982) found that, after controlling for stress, humour use and humour appreciation did not significantly predict anxiety and depression. Martin and Lefcourt (1983) found the interaction of stress and humour, but not humour alone, to be predictive of mood disturbance. Nezu et al. (1988) found that humour was predictive of depression both at time 1 and time 2, although Overholser (1992) found that humour was not predictive of depression or loneliness at time 2.

These conflicting findings may be attributed to the differences in sample sizes in each study and hence power of the research. Although Safranek and Schill's (1982) sample consisted of 161 participants, Nezu et al. (1988) and Overholser (1992) employed smaller sample sizes ( $N = 87$  and  $96$  respectively). The sample sizes in Martin and Lefcourt's (1983) three studies were even slimmer, ranging from 25 to 62 participants. According to Tabachnick and Fidell (1989), due to the width of the errors of estimating correlation with small samples, power may be unacceptably low in studies with fewer than 100 cases. Hence, these sample sizes may have not only contributed to conflicting findings, but also to unreliable results. It would seem fair to suggest that to enhance power and comparability between research, the sample sizes should be relatively similar across studies and include sample sizes of more than 100 participants (but not too many that any multiple correlation departs significantly from zero).

## Optimism

The benefit of optimism to stress has also become an area of interest. A widely held belief is that positive thinking can help a person to triumph over adversity- recover from an illness, endure a personal hardship, and overcome obstacles (Scheier, Matthews, Owens, Magovern, Lefebvre, Abbott, & Carver, 1989). Scheier and Carver (1992) are two researchers who have extensively studied this area. Although they initially focused on situation-specific expectancies, their interest has slowly shifted to a consideration of expectancies that are more general in nature because they purport that the kinds of problems that people frequently encounter are often very general in scope. According to Scheier and Carver (1992), global expectancies are relatively stable across time and context and form the basis of an important characteristic of personality. They labeled this characteristic as ‘dispositional optimism’ and formally defined it as “the tendency to believe that one will generally experience good versus bad outcomes in life” (Scheier & Carver, 1992, p.203). According to Scheier and Carver (1987), people’s actions are greatly influenced by their expectations about the consequences of those actions. People who see desired outcomes as attainable continue to exert efforts to attain those goals, even when doing so is difficult. Conversely, if positive outcomes appear to be impossible, whether through personal inadequacies or through external limitations, people are likely to withdraw their efforts and eventually disengage themselves from pursuit of their goals. Hence, outcome expectancies are viewed as a major determinant of the disjunction between two classes of behaviours: a) continued striving versus b) giving up and turning away (Scheier & Carver, 1987). The essence of the theory, as it relates to the optimism-pessimism construct, is that optimists are



more effective than pessimistic individuals in their goal-directed behaviours in a variety of domains (Robbins, Spence, & Clark, 1991).

Consistent with research in the area of humour and stress, researchers have also investigated the relationship between optimism and both physical well-being and psychological well-being. These areas will be discussed in turn, beginning with research that has looked at the relationship between optimism and physical health.

Research has demonstrated an association between optimism and physical well-being. Scheier et al. (1989) conducted a study to examine the effect of dispositional optimism on the recovery from a coronary bypass in 51 middle-aged men. Patients were asked to provide their experiences at three points in time: on the day before their surgery, six to eight days post-surgery, and six months after surgery. At time 1, participants reported their level of depression, anxiety, and hostility on the Multiple Affect Adjective Check List and indicated their expectations of the amount of pain, fatigue, nervousness, sadness, anger, relief, or happiness they expected to feel after surgery. Furthermore, they indicated the type of coping strategies that they were using to help them deal with the stress of the upcoming surgery. This included how much thought they gave to their symptoms, emotions and stay in hospital, the degree to which they had sought out information relevant to their operation and recovery period, and the degree to which they had made plans post-surgically. The patients' level of dispositional optimism was also assessed with the Life Orientation Test, a scale that was developed by Scheier and Carver in 1985 to measure people's outcome expectancies.

At time 2, mood and coping style were reassessed. The patients also estimated the time that they thought it would take for different aspects of their lives

to return to normal, including returning to work, as well as social, recreational, physical, and sexual activities. The final patient contact involved measuring the patients' quality of life using an abbreviated (31-item) form of Andrew and Withey's (cited in Scheier et al., 1989) Perceived Quality of Life Scale. This scale covers a broad spectrum of life quality, ranging from satisfaction with home, family, and health, to sexual and recreational activities. Patients indicated which, if any, areas of life had returned to normal. In addition to the patients' self-reports, members of the hospital's cardiac rehabilitation team made several ratings of the patients' physical recovery, and medical charts were examined to determine the patients' extent of cardiovascular disease prior to surgery, as well as other aspects of physical health.

Results were analyzed through hierarchical multiple regression analyses, which controlled for the effects of three medical variables: a) number of grafts performed, b) number of main coronary arteries that were occluded 50 per cent or more, and c) total score on composite risk factor for heart disease, including smoking, diagnosis of hypertension, and cholesterol values. The results indicated that dispositional optimism had a strong effect on the patients' quality of life measure six months post-operatively. Optimists reported a higher quality of life than did pessimists. In relation to the patients' moods prior to surgery, there was a significant effect of optimism on hostility and a trend for an effect on depression. Thus, optimists had lower levels of pre-surgical hostility and depression. Optimism was unrelated to anxiety prior to surgery and there was no significant relation between optimism and mood six to eight days postoperatively.

Other results indicated that prior to surgery, optimists were more likely than pessimists to be making plans for themselves and setting goals for their recovery. They were also less likely to focus on the negative aspects of their emotional reactions (for example, their feeling of nervousness), although this finding was not significant. Six to eight days post-operatively, optimists were more likely to cope by trying to ignore or suppress thoughts about their physical symptoms, and medical charts demonstrated that optimists had a significantly faster rate of recovery than the pessimists. At six weeks follow-up, a review of the medical records showed that optimists tended to have fewer complications, although the effect was not significant, and after six months follow-up, significantly more optimists reported having resumed physical exercise, and having returned to work on a full-time basis.

Taken together, Scheier et al's. (1989) findings suggest that optimism was significantly associated with the patients' physical well-being and rate of recovery, both during and following surgery. Furthermore, these findings were held after controlling for the number of grafts performed during surgery, the extent of the patient's coronary artery disease, and the patient's standing on risk factors for heart disease. Thus, the argument that optimists did better because they were healthier or underwent less radical surgery is unconvincing.

In a study by Sherman and Walls (1995), the relationship between optimism, stress, and physical and psychological symptoms among 201 university students was investigated. Optimism was measured by the Life Orientation Test. To measure stress, the students responded to questions in relation to social, school, sexual, work, spiritual, and general stress. Participants indicated whether they had experienced physical symptoms such as headaches, digestive upsets, depression, and anxiety in

the last few weeks. Hierarchical multiple regression analyses revealed that, whilst optimism made the largest contribution to the variance in symptoms for males (14.5%), optimism did not prove to be a potent variable for females with symptoms, nor did it significantly contribute to stress for either males or females.

Lai (1995) also investigated the relationship between hassles, optimism, and prospective reports of physical symptoms amongst 90 university students. Students initially completed the Life Orientation Test and the College Students' Inventory of Recent Life Experiences to measure hassles. Three weeks after initial assessment, participants reported their experience of physical symptoms that had occurred over the past three weeks, such as headaches, nausea, coughs, upset stomach, and running nose. A hierarchical multiple regression analysis was performed with hassles being entered first into the equation as a first predictor of physical symptoms. This was followed by the entry of optimism, and then the interaction of hassles and optimism as the third predictor. Hassles was found to be a reliable unique predictor of physical symptom reports. Although optimism failed to predict symptom scores, the interaction between hassles and optimism was a unique predictor of symptoms, suggesting that the nature of the relationship between hassles and symptom reports depended on optimism scores.

In summary, research investigating the relationship between optimism and physical well-being has been somewhat limited. The studies have also demonstrated inconsistent findings. This may be partially due to the differences in sample sizes in the studies and hence power, as previously discussed at the closing of the Humour section.

Conversely, the relationship between optimism and psychological well-being has been more effectively substantiated. Aspinwall and Taylor (1992) examined the adjustment of 672 undergraduate students to college. Several personality factors were assessed when students arrived on campus including optimism, self-esteem, locus of control, and desire for control. Three months later, students were assessed on perceived stress, self-reported adjustment to college, physical health and symptoms, and academic motivation. Two years later, two measures of academic performance were obtained from the university registrar. These included students' overall academic grades and college entrance exam scores. In relation to optimism, the results showed that this trait was significantly related to later stress, adjustment to college, as well as self-reported health and physical symptoms, but not significantly related to academic grades or college exam scores.

Scheier and Carver (1992) conducted a similar study investigating students' adaptation to college life. However, in contrast to Aspinwall and Taylor's (1992) study, participants were assessed on psychological well-being both at the beginning and end of the study. This enabled the researchers to evaluate the extent to which optimism was associated with changes in scores on the outcome measures over time. Consistent with the above findings, optimism was a significant predictor of changes in perceived stress, depression, loneliness, and social support over time. Optimists became less stressed, less depressed, less lonely, and more socially supported than did the pessimistic subjects.

Bromberger and Matthews (1996) examined the effects of the personality variables, pessimism and trait anxiety, as well as life stress on depressive symptoms in 460 middle-aged women. Measures of pessimism, trait anxiety, and depressive

symptoms were administered at baseline when all women were pre-menopausal, and approximately three years later at which time measures of acute and chronic stressful life events were administered. The researchers assumed that the transition from pre- to post-menopause would be a challenging circumstance and was thus viewed as a potential stressor for the middle aged women in the study. Depression was assessed by the Beck Depression Inventory. As Bromberger and Matthews (1996) wanted to examine factors that were predictive of depressive symptoms in women who were initially non-depressed, only participants who scored below a non-clinical cut off score on the inventory at baseline were selected for the study. Trait anxiety was measured using the Trait Anxiety Scale from the State Trait Anxiety Inventory, whilst pessimism was assessed by the Life Orientation Test. Three types of stressors were delineated. The first type included short-term events that had occurred in the previous six months. These were measured by a modified version of the Pilkonis Life Event Schedule. The second type of stressors included ongoing difficulties (lasting longer than six months) and were assessed by asking the participants to indicate whether they had experienced any of the following factors in the last six months: health problems in someone close to them, work difficulties, financial stress, relationship difficulties, or any other unlisted problems. The third stressor was menopause. Participants were categorized as pre-menopausal (menses having occurred in the last three months), peri- or post-menopausal (ceased menstruating in last three to 12 months), or on hormone replacement therapy.

Separate hierarchical multiple regression analyses were conducted for each personality characteristic and each stressor to examine the hypothesis that women who were pessimistic and had high anxiety at the baseline evaluation would have

higher depressive symptom scores if they had experienced a significant stressor. In relation to pessimism, the regression analysis showed that after adjusting for initial levels of depressive symptoms and education (entered at Step 1 of the regression), pessimistic attitudes at baseline significantly predicted subsequent depressive symptoms. The interaction of pessimism and ongoing stress also significantly predicted depressive symptoms, suggesting that pessimistic women who reported a stressful life event also tended to have an elevated depression score. A separate regression analysis showed that menopause did not increase depression, indeed in comparison to menopausal women, pre-menopausal women tended to have higher depression scores. Overall, Bromberger and Matthews's (1996) findings suggest that pessimistic women reported higher levels of depressive symptoms than optimistic women, especially when they experienced recent or chronic problems, and that, even though pre-menopausal women approaching menopause had higher depressive symptomatology, menopause is not a time of psychological vulnerability to stress.

It is worth noting that similar results were obtained by Boland and Cappeliez (1997) who investigated the relationship between optimism and psychological well-being in 109 women over the age of 60. The researchers found that optimism was significantly negatively associated with neuroticism, daily stress, and psychological distress, and positively associated with social support, perceived health, and life satisfaction.

Sumi, Horie, and Hayakawa (1997) explored the role of optimism in the relationship between Type A behaviour and psychological well-being in a sample of 144 Japanese female university students. As in the above studies, optimism was measured by the Life Orientation Test. The Perceived Stress Scale, Self-rating

Depression Scale, and the State Scale of the State-Trait Anxiety Inventory were used to provide ratings of perceived stress, depression, and anxiety, respectively. The results indicated a significant inverse relationship between optimism and perceived stress ( $r = -.33$ ). Thus, students who rated themselves lower on optimism reported higher ratings of perceived stress. Optimism was also significantly negatively correlated with depression scores ( $r = -.34$ ) and state anxiety scores ( $r = -.21$ ), which suggested that those with higher levels of optimism also had significantly lower ratings of depression and state anxiety. Similar results have also been demonstrated in a study by Lee, Asford, and Jamieson (1993), who found a significant negative association between optimism and anxiety among 192 university students.

The discussion thus far has been limited to a consideration of the notion that optimism may confer benefits on physical and psychological well-being. However, it is worth mentioning the possible mechanisms through which these beneficial effects may be occurring. It has been postulated that these effects could derive from the way in which optimists and pessimists cope with stress. Lazarus and Folkman (cited in Scheier, Wientraub, & Carver, 1986) described two general ways in which people cope with stressful situations. The first strategy, problem-focused coping, is action that has the goal of removing or circumventing the source of stress. The second strategy, emotion-focused coping, refers to the attempt to reduce or eliminate the emotional distress associated with the stressor. Scheier et al. (1986) have argued that problem-focused coping is more likely among persons who expect to see positive change (that is, optimists). Alternatively, they have argued that emotion-focused coping is more likely among those who not expect to see positive change (that is, pessimists). Although both types of coping can occur in the same



situation, people are more likely to engage in problem-focused coping when they believe that something constructive can be done about the stressor. Conversely, emotion-focused coping is more common when people believe that the situation is one that must be endured (Scheier & Carver, 1987). Problem-focused coping has been shown to have significant positive outcomes on psychological well-being (Folkman, Lazarus, Gruen, & DeLongis, 1986).

Scheier et al. (1986) conducted a series of studies in which they predicted that optimism would be related to active attempts to deal with stressors in a problem-focused manner. In one study, 291 university students were asked to write a brief description of the most stressful event that they had experienced during the past two months, as well as to provide some indication of the event's controllability. They then completed the Ways of Coping Checklist, which lists a series of diverse coping activities that range from behavioural (for example, "made a plan of action and followed it"), to cognitive (for example, "tried to forget the whole thing"), to affective (for example, "got mad at the people or things that caused the problem"). Respondents rated the extent to which they relied on each strategy in their attempts to cope with a stressful situation. A factor analysis revealed that the participants' ratings on the Ways of Coping Checklist yielded several factors, which were then correlated with their Life Orientation Test scores. Optimism proved to be positively correlated with the use of problem-focused coping, especially among those who perceived the stressful event to be somewhat controllable. With regard to emotion-focused coping, optimism was positively correlated with the use of positive interpretation, and inversely correlated with denial and distancing. Optimism was

also positively related to the acceptance of the reality of the situation, but only among those who perceived their situations to be uncontrollable.

In Scheier et al's. (1986) second study of optimism and coping, 100 students were presented with a set of hypothetical situations that appeared stressful but potentially controllable. The researchers focused on controllable situations because they were interested in replicating the findings from the above study that demonstrated a relationship between optimism and problem-focused coping, which was most evident in controllable situations. Participants indicated what they would do should they ever be confronted by the situations. Thus, unlike in study 1, coping responses were self-generated. The data were analyzed by coding the participants' coping responses into several categories that were largely based on the factors emerged from the Ways of Coping Checklist. These categories were then correlated with optimism scores.

Consistent with the first study, optimism was positively related to active problem-focused coping, as well to the seeking out of social support. Negative associations emerged between optimism and disengagement from coping and the tendency to focus on and vent one's feelings. It is worth noting that this has also been substantiated by Long (1993) who found a negative relationship between optimism and disengagement coping ( $r = -.20$ ) among a sample of 83 male managers. Overall, these findings imply that optimistic people display coping patterns that involve continued positive striving and making the best of the stressful situation. Pessimists tend to deny the reality of the stressor, are preoccupied with their emotional distress, and tend to disengage from the goals with which the stressor is interfering.

In Aspinwall and Taylor's (1992) college adaptation study, participants completed the Ways of Coping Checklist at the beginning of the study, to determine how students were trying to cope in their adjustment to college life. A factor analysis revealed four major coping factors: avoidance coping, active coping, seeking support, and searching for meaning. Consistent with the above findings, optimism was significantly positively correlated with active coping and the seeking of social support, but negatively correlated with avoidance coping. Use of avoidance coping was also negatively correlated with later adjustment and physical health, whereas use of active coping was positively associated with adjustment and physical and psychological health.

These findings are further suggestive of the notion that the beneficial effects of optimism to physical and psychological well-being are partly relative to differences in coping. The association between optimism and problem-focused coping has been reasonably well substantiated (Hart & Hittner, 1995; Strutton & Lumpkin, 1992). Although research is relatively limited in this area (as with the research investigating the ways in which humour serves as a stress buffer), the above findings also provide an interesting framework from which we can begin to understand the mechanisms that underlie the positive effects of optimism.

### Burnout

An assumption that seems to underlie a majority of the above studies is that depression (as well as loneliness and self-esteem) is a function of stress. Although sometimes related, these conditions often stem from factors other than stress. It could be therefore said that the above investigations failed to directly assess the

ability of humour to moderate the psychological disturbance associated with stress, and it would seem that research is needed to investigate the relationships between humour and optimism and variables that are more directly related to stress. One area that directly relates to stress but has, up to now, remained relatively uninvestigated is that of burnout and, more specifically, its relationship with humour and optimism.

Burnout has been defined as “a reaction to chronic, job-related stress characterized by physical, emotional, and mental exhaustion” (Paradis, 1987, p.6). According to Pines and Aronson (1988), low energy, chronic fatigue, and weakness characterize physical exhaustion. People who are burnt out typically report a range of physical conditions, such as accident-proneness, heightened susceptibility to illness, frequent headaches, nausea, muscular tension, aches and pains, and psychosomatic complaints (Pines, Aronson, & Kafry, 1981). Emotional exhaustion primarily includes feelings of helplessness, hopelessness, and entrapment, leading in most cases to emotional breakdown, whilst mental exhaustion is characterized by the development of negative attitudes toward one’s self, work, and life (Pines et al., 1981). Burnt out individuals often report dissatisfaction with their work and way of life, as well as a lowered self-concept involving feelings of inadequacy, inferiority, and incompetence. These negative attitudes are also usually directed at others, a feature that Pines and Aronson (1988) have termed ‘dehumanization’, which specifically refers to a reduced awareness of the human attributes of others and a loss of humanity in interpersonal interactions.

Maslach (cited in Pretorius, 1994; Randall & Scott, 1988; Schaufeli, Maslach, & Marek, 1993) identified three components of the burnout syndrome: emotional exhaustion, (characterized by wearing out, loss of energy, depletion,

debilitation, and fatigue), depersonalization (characterized by negative and inappropriate attitudes toward others), and lack of personal accomplishment (characterized by reduced productivity or capability, low morale, withdrawal, and an inability to cope). Maslach's three components of burnout have been well documented in the burnout literature and the majority of researchers who attempt to measure burnout administer the Maslach Burnout Inventory, a scale developed by Maslach and Jackson (1981) to directly assess these three components.

Burnout is a major factor in low morale, absenteeism, tardiness, and high job turnover. Furthermore, it can be a costly phenomenon in wasted training for those who leave their jobs and in terms of the psychological price paid by those who remain in their jobs. It can be costly for the organization in terms of the lost talent and poor performance, and it can be equally as costly to the employees, as well as those on the receiving end (Farber, 1983; Greenberg, 1990; Ross & Altmaier, 1994).

Considering the implications of burnout, very few researchers have investigated burnout and specifically its relationship to personality factors, such as humour and optimism. To date, one study by Fry (1995) has investigated the relationship between perfectionism, humour, and optimism, and physical health and psychological well being, including self-esteem and level of burnout in female executives. The aim of the study was to examine how perfectionism, humour, and optimism could moderate the deleterious effects of daily hassles on self-esteem, burnout, and physical health. Burnout was measured by the Maslach Burnout Inventory.

Bivariate correlations revealed significant negative relationships among humour, optimism, and perfectionism, and burnout. The moderating effects of

perfectionism, humour, and optimism on health outcomes were examined through hierarchical multiple regression analyses that were conducted separately for each dependent variable (self-esteem, physical illness, and burnout). In relation to burnout, results showed that perfectionism accounted for a significant proportion of the variance in burnout, even after the variance due to hassles was partialled out. Although humour did not significantly predict burnout, the interaction of humour and hassles had a moderating effect on the respondents' levels of burnout, suggesting that the strength of the correlation between hassles and burnout varied as a function of the total score on humour. Optimism accounted for a significant proportion of the variance in burnout, even after partialling out the variance due to hassles.

It is certainly evident that research on personality factors that may moderate burnout is minimal. Given this lack of research, we know relatively little of how burnout affects individuals in other professions. One professional group that is likely to be susceptible to the burnout syndrome is that of university lecturers. Common sense alone would suggest that university lecturers are prone to burnout, given that their work loads include a range of responsibilities, such as teaching, research, and administrative duties. Many university lecturers are also known to have additional jobs that are external to their university posts. Surprisingly, however, very little research has explored burnout, let alone stress, among university lecturers. The few studies that have looked at stress in this population have found that academics tend to experience a range and a high proportion of stressors.

According to Blix, Cruise, Mitchell, and Blix (1994), university academics are likely candidates for burnout because of their relationships with large numbers of

students, staff, and administrators. In a study by Gmelch, Lovrich, and Wilke (cited in Blix et al., 1994), university lecturers reported that 60 per cent of their overall perceived stress came from work. High self-expectations, obtaining financial support for resources, insufficient time, low pay, and striving for publication were among the most troublesome reported stressors. Byrne (1991) also found that pressures associated with conducting research and the need for publication were ranked highly as aversive events for academics. This has been further supported in a study by Blix et al. (1994), which also found heavy workload to be the most frequently cited reason for considering job change.

Boice and Myers (1987) investigated the differences in stress experienced between academic psychologists and psychologists in private practice. The researchers found that, compared to the psychologists in private practice, a significantly higher percentage of academic psychologists experienced work-related stressors in the last six months. The stressors that were experienced by the academic psychologists related to wages, paperwork, committee meetings, secretarial work, professional recognition, and the behaviour of their colleagues. Furthermore, a higher percentage of academicians indicated job-related problems on more than half of their workdays. These problems related to physical health, tiredness, sadness, negativism toward work, wishing for new work, worry over incompleting projects, insomnia, and marital discord. Snape (1988) found that there were several problem areas or sources of stress for academicians in a college of further education. These included lack of insufficient resources, poor communication and confidence in management, lack of recognition and promotional prospects, feeling under pressure to perform tasks, limited security on campus, having to attend meetings that were

perceived to be a waste of time, and working with difficult and poorly motivated students.

Overall, these findings are certainly suggestive of the notion that university lecturers are at risk of experiencing a range of work-related stressful events, and consequently at risk of experiencing burnout. Given that the consequences of burnout are potentially grim and that little research has explored this phenomenon in the academic population, it is clearly apparent that there is a gap within the stress literature. It was the present study's aim to alleviate this situation.

### The Present Study

The present study examined burnout in the academic population. More specifically, it looked at the relationship between stress, humour, optimism, and overall burnout in university lecturers. In accordance with Fry (1995), the three factors of burnout measured by the Maslach Burnout Inventory (emotional exhaustion, depersonalization, and loss of a sense of personal accomplishment) were combined to provide a total burnout score.

The present study improved from previous investigations in several ways. Firstly, by investigating burnout among academics, the present study helped to fill the gap in the burnout and stress literature. As stated above, very few researchers have investigated burnout in academics, a population that is particularly vulnerable to the condition. Furthermore, the proportion of research that has studied the relationship between humour and optimism and burnout has also been extremely slim. As mentioned above, to date, Fry's (1995) study seems to be the first to have examined these variables.



Secondly, the present study contained some methodological improvements. The above studies that measured optimism used the original Life Orientation Test, an 8-item scale developed by Scheier and Carver in 1985 (Scheier, Carver, & Bridges, 1994), to assess dispositional optimism. On this original scale, four items are worded positively (reflecting positive expectancies) and four are worded negatively (reflecting negative expectancies) to balance potential response bias. The scale also contains four filler (unscorable) items. An examination of the items led Scheier et al. (1994) to identify two problematic positively worded items, including “I always look on the bright side of things” and “I’m a believer in the idea that ‘every cloud has a silver lining.’” According to the researchers, these items are not reflective of the expectation of positive outcomes. Rather, they refer to a particular way of reacting to problems and stress, that is, putting problems in the best possible light and searching for hidden benefits and meaning when difficulties arise.

As a result of their criticisms, Scheier et al. (1994) developed a revised Life Orientation Test. The scale has eliminated the two problematic items and added one new positively worded expectancy item to increase the number of scorable positively worded items to three. A negatively worded item has also been removed to ensure that there are an equal number of positive and negative items. Due to the problems with the original scale, the present study will be the first study to employ the revised Life Orientation Test.

Another improvement from previous studies also relates to the measurement of optimism. The Life Orientation Test (both original and revised) provides a single summary score, with high scores indicating a more optimistic orientation and low scores indicating a more pessimistic orientation. This single summary score assumes

that one cannot be both optimistic and pessimistic; an optimistic outlook precludes a pessimistic outlook, and vice versa. Scheier and Carver (cited in Sharpe, Hickey, & Wolf, 1994) claimed that the Life Orientation Test represented a single optimism factor and stated that the scale should be treated as unidimensional.

Many researchers, however, have found that a two-factor model more effectively represents their data, with pessimistically and optimistically focused items loading on separate factors. Chang, D’Zurilla, and Maydeu-Olivares (1994) found, in a weighted least-squares confirmatory factor analysis, that a fitted two-factor solution was an independent factors solution with all optimism items loading on one factor and all pessimism items loading on a second factor. This finding has been further replicated in other investigations (Chang, Maydeu-Olivares, & D’Zurilla, 1997; Hjelle, Belongia, & Nesser, 1996; Sharpe et al., 1994). Despite these findings, previous researchers have not analyzed the optimistic and pessimistic items separately, possibly limiting the scope of information that could have been gained in their studies.

Scheier et al. (1994) also examined the structure of the revised Life Orientation Test. Interestingly, exploratory analyses using both orthogonal and oblique rotation techniques on the items yielded a one-factor solution. However, a confirmatory factor analysis revealed that both a one-factor and a two-factor model provided an acceptable fit to the observed data. Given these somewhat contradictory findings, the present investigation also conducted a factor analysis of the revised Life Orientation Test, to determine whether the scale should be scored in a bipolar fashion using an overall optimism score, or whether two separate scores should be computed, one for the positively worded items (reflecting optimism) and one for the

negatively worded items (reflecting pessimism). This measure has not been previously taken in prior research. Based on previous findings on the structure of the original Life Orientation Test, it was expected that the Life Orientation Test- Revised would be composed of two factors.

The present study used the Coping Humour Scale to measure humour. This was advantageous to the present study as it effectively avoided some of the problems associated with other humour measures, which have been widely used in previous investigations. For example, two widely used scales include the Situational Humour Response Questionnaire, on which people rate how amused or not amused they would have felt in response to a range of situations (Lefcourt & Martin, 1986), and the Humour Appreciation Scale, which asks people to rate the funniness of cartoons (Overholser, 1992). Both of these scales include laughter as an index of humour (Thorson & Powell, 1991). This index seems to conflict with the definition of humour, which implies that humour and laughter do not always go hand in hand (Thorson, 1990). Furthermore, rating a supposedly funny situation or cartoon as unfunny may not necessarily reflect a poor sense of humour, but instead could be indicative of a different kind of sense of humour. Being asked to rate the funniness of cartoons or situations is also likely to cause a social desirability problem; respondents who do not find them funny may indicate that they do through concern of being seen as lacking a sense of humour. Not only did the Coping Humour Scale avoid this problem by not measuring sense of humour per se (rather, the use of humour to cope with stress), it was more appropriate for the purpose of the present study, as the scale directly measured coping humour in stressful events.

Furthermore, rather than measuring daily hassles or life events as stress indicators, the present investigation measured perceived stress using the Perceived Stress Scale that was developed by Cohen, Kamarck, and Mermelstein (1983). The definition of stress that was discussed earlier in the chapter emphasized the significance of people's unique appraisals of events. Unlike other stress scales (for example, the Hassles Scale and Life Events Survey), the Perceived Stress Scale measures a person's appraisal but does not tie this to specific situations. The Perceived Stress Scale was believed to be a suitable measure of stress in the present study, as the aim of the study was not to assess a particular stressor, but instead the degree to which academics find their lives unpredictable, uncontrollable, and overloading (Cohen, 1986).

There were several hypotheses underlying the present study. Based on the direct link between chronic stress and burnout, it was expected that perceived stress would be most positively correlated with and predictive of academics' level of burnout. Furthermore, it was hypothesized that after perceived stress, humour and either the separate or combined constructs of optimism and pessimism (depending on which were entered into the regression) would have a significant main-effect on burnout. This expectation was formed because of the substantiated relationship between humour, optimism, and stress in previous research. The decision to enter the combined or separate optimism and pessimism constructs into the regression analysis depended on the results from the principle components analysis that was conducted on the Life Orientation Test- Revised. If the results revealed that the Life Orientation Test- Revised comprised of only one factor, the combined optimism construct was to be entered into the regression analysis. Alternatively, if the

principle components analysis revealed two factors, the separate optimism and pessimism constructs were to be entered into the regression analysis.

Based on previous research findings, it was also expected that humour and the combined or separate constructs of optimism and pessimism would moderate the relationship between perceived stress and burnout. Thus, it was expected that the interactions between humour and the combined or separate optimism and pessimism constructs and perceived stress would significantly predict burnout. If this hypothesis was supported, it would mean that humour and combined or separate optimism and pessimism buffered the lecturers from the effects of stress. Finally, although the ability of academics' gender to predict burnout was also tested, it was expected that this would be the least predictive of burnout. A hierarchical multiple regression analysis was conducted to assess these expectations.

A further interest was whether stress levels could increase to the point that humour and optimism could no longer be used to help people cope with stress. Although these variables were hypothesized to be negatively related to stress and burnout, it was thought that once stress levels became so high, humour and optimism levels would diminish. In order to examine this, the participants were asked to report whether they felt that their stress level had increased over the last six months. Those who stated that they did feel more stressed were further asked to indicate whether they had experienced a reduction in their use of humour to cope with problems and their optimism levels.

## CHAPTER TWO

### Method

#### Participants

Participants consisted of lecturers from a range of universities in Perth. To obtain the participants, a number of steps were taken. Firstly, a range of disciplines were selected by reading through university handbooks. Although these disciplines were not randomly selected, a range of Arts and Science disciplines were chosen, which were then prioritized, according to whether they were Arts or Science-based. Letters were then sent to all the Heads of the disciplines that were selected, irrespective of their order of priority. These letters briefly described the purpose of the study, requested their permission to include lecturers from their discipline in the study, and informed them that that they would receive a telephone call to determine whether their permission had been granted (see Appendix A). Each Head also received both a letter, which indicated that the research project had received ethical approval from the School of Psychology Ethics Committee, and a copy of the questionnaire package that was to be distributed to the lecturers. One week later, telephone calls were made to the Heads of the disciplines that had been prioritized first. Permission was obtained from each Head that was contacted. Relevant information was also obtained, including the number of lecturers within their discipline and the secretaries to whom the questionnaire packages could be delivered so that they could distribute them in the lecturers' mailboxes. Once a sufficient number of lecturers were obtained for the study, the disciplines that were lower in priority were excluded from the study.

A total of 514 lecturers received questionnaires. This included 266 lecturers from Edith Cowan University (the institution where the researcher is enrolled) and 248 lecturers from other universities, including the University of Western Australia, Curtin University of Technology, and Murdoch University.

Edith Cowan University lecturers were selected from Joondalup, Churchlands, and Mt Lawley campuses. From the Joondalup campus, 105 lecturers from the following disciplines received questionnaires: Health Studies; Biomedical and Sports Science; Natural Sciences; Marketing and Tourism; Finance and Business Economics; Psychology, and Community Studies. One hundred and eleven lecturers from the Churchlands campus were selected from the following disciplines: Clinical Nursing; Education and Social Inquiry; Maths, Science, and Technology Education; Accounting; Finance and Business Economics; Language Education, and Management and Information Systems. Fifty lecturers from the Mt Lawley campus received questionnaires and the following disciplines were selected: Natural Sciences; Social and Cultural Studies; Language Education, and Maths, Science, and Technology Education.

Sixty lecturers from the University of Western Australia received questionnaires. These lecturers came from the following disciplines: Psychology, Philosophy, Public Health, and History. Eighty-nine lecturers from Curtin University of Technology received questionnaires. The disciplines that were selected included Psychology, Communication and Cultural Studies, and Accounting. From Murdoch University, 99 lecturers received questionnaires. The selected disciplines included Sociology, Commerce, Psychology, and Education.

The lecturers were not selected according to their sex. Participation was voluntary. Lecturers who responded included 126 Edith Cowan University lecturers (74 males and 52 females), representing a 47% response rate, and 75 lecturers from the University of Western Australia, Curtin University of Technology, and Murdoch University (45 males and 30 females), which represented a 30% response rate. Out of these lecturers that responded, 19 only partially completed their questionnaires, and were therefore dropped from the analysis. Overall, 182 participants were included in the study, including 105 males and 77 females.

### Materials

Participants received a questionnaire package that contained a cover letter and three sections. The cover letter (see Appendix B) briefly informed the lecturers about the purpose of the study, provided instructions on completing and returning the questionnaires, and informed participants about the anonymity of their participation.

Section A consisted of four scales. These included the Coping Humour Scale, Perceived Stress Scale, Life Orientation Test- Revised, and the Maslach Burnout Inventory.

The Coping Humour Scale (see Appendix C), which was developed by Lefcourt and Martin (1983), measured the degree to which the lecturers used humour to cope with stressful events. The scale consisted of seven items, which were answered on a four point scale, ranging from strongly agree to strongly disagree. Five items were worded so that an agreement indicated the use of humour, and the remaining two (items 1 and 4) reflected a lack of humour. An example of an



item from the scale is “I must admit my life would probably be easier if I had more of a sense of humour”. For each item indicating the use of humour to cope with stress, the responses were given scores of 4 to 1, with 4 indicating strong agreement that humour was used. For items indicating low use of humour, the columns were reverse scored. Overall scores on the Coping Humour Scale were summed to give a composite humour score. A high Coping Humour Scale score indicated a high usage of humour to cope with stress.

Internal consistency analyses by Lefcourt and Martin (1983) have yielded Cronbach alphas in the .60 to .70 range. Lefcourt and Martin (1986) cite a variety of studies, which have also found support for the Coping Humour Scale’s validity, showing significant correlations with peer ratings of sense of humour ( $r = .64$ ) and rated humorousness of monologues created by participants while watching a stressful film ( $r = .50$ ).

Participants also received Cohen et al’s. (1983) Perceived Stress Scale (see Appendix D) to measure their perceived stress. The scale contained fourteen items, which were answered on a four-point scale, ranging from “almost never” to “very often” to indicate how frequently or infrequently the participants experienced the statements. An example of an item from the Perceived Stress Scale is “In the last month, how often have you felt that things were going your way?” Half the items were worded to indicate the perception of being stressed, whereas the other half indicated not perceiving stress. These items were interspersed throughout the scale. For each item indicating the perception of stress, the columns almost never to very often were scored from 1 to 4, and the remaining items were reverse scored. It should be noted that the original Perceived Stress Scale contains a ‘Never’ column.

However, this column was excluded from the scale in the present study to ensure that there was some consistency among the scales, as the humour and optimism scales did not contain a 'Never' column. Scores were summed on the scale to give a composite stress appraisal score. A high score on the Perceived Stress Scale indicated a high level of perceived stress.

Cohen et al. (1983) have conducted internal consistency analyses for the Perceived Stress Scale that yielded Cronbach alphas between .84 to .86. Test-retest reliability coefficients were .85 for college students and .55 for a smoking-cessation sample. Evidence of the scale's concurrent validity was obtained by the significant correlation of the scale with depressive symptomatology ( $r = .65$  to  $.76$ ) (Cohen et al., 1983).

Scheier et al's. (1994) Life Orientation Test- Revised was administered to measure the participants' level of optimism (see Appendix E). As discussed in Chapter One, the revised version excluded the two problematic positively worded items from the original Life Orientation Test (shown in Appendix F). In addition, a negatively worded item was also excluded from the revised version and one new positively worded item was added. Overall, the scale consisted of six scorable and four filler items. Three of the scorable items were positively worded (indicating positive expectancies or optimism) whilst the remaining three were negatively worded (indicating negative expectancies or pessimism). These items were interspersed throughout the scale. An example of an item from the scale is "In uncertain times, I usually expect the best". For each item indicating optimism, the columns from strongly agree to strongly disagree were scored 4 to 1, and for items indicating pessimism the columns were reversed scored. The overall scores were

summed to give a composite optimism score. High scores on the scale reflected high levels of optimism, whereas low scores reflected pessimism. Separate scores were also calculated in the same way for the positively worded items and the negatively worded items, because it was expected that the result of the factor analysis would demonstrate that the scale consisted of two separate factors (that is, optimism and pessimism). High scores on the pessimism scale reflected low pessimism. High scores on the optimism scale reflected high optimism.

Internal consistency coefficients between .43 to .63 and test-retest reliability coefficients of .68 (four months), .60 (12 months), .56 (24 months), and .79 (28 months) have been reported by Scheier et al. (1994). Evidence for convergent validity has been demonstrated by correlating the scale with measures of self-esteem, neuroticism, trait anxiety, and self-mastery. Coefficients ranged from -.36 to -.54 (Scheier et al., 1994).

To measure burnout, the participants received Maslach and Jackson's (1981) Maslach Burnout Inventory (see Appendix G). Scores from the three sub-scales, Emotional Exhaustion, Depersonalization, and Personal Accomplishment were combined to assess overall burnout. The scale consisted of 22 items. The three optional items were excluded from the present study. The scale was originally designed by Maslach and Jackson (1981) to measure burnout in a broad range of settings. However, for the purpose of the present study, the scale was adapted to more specifically target the university setting. Thus, as shown in Appendix G, where appropriate, the word "recipients" was changed to "students and colleagues". An example of an item is "I can easily create a relaxed atmosphere with my students and colleagues". Originally, the scale assessed two dimensions: frequency and intensity.

However, as research has shown high intercorrelations between ratings on these scales (Pretorius, 1994), respondents were only asked to rate the frequency in which they experienced each statement on the scale, ranging from “every day” to “a few times a year”. It should be noted that the original scale contains a ‘Never’ column. Consistent with the Perceived Stress Scale, this column was also removed from the Maslach Burnout Inventory to ensure that there was consistency among the rating scales employed in the study. The Personal Accomplishment sub-scale was reverse scored, as each item on this sub-scale indicates lack of burnout. Scores were summed to give a composite burnout score. High scores on the overall scale reflected a high degree of experienced burnout.

Maslach and Jackson (1981) conducted internal consistency analyses, which yielded Cronbach alphas of .83 to .84. Coefficients ranged from .72 to .89 for each sub-scale. Test-retest reliability ranged from .60 to .82 for the sub-scales. Maslach and Jackson (1981) correlated Maslach Burnout Inventory scores with behavioural ratings made by people who knew the participants well, and with participants’ ratings of job satisfaction, absenteeism, relationships with colleagues, and stress outcomes. Their findings demonstrated support for the Maslach Burnout Inventory’s convergent validity.

Section B consisted of three questions (see Appendix H) that were designed to measure whether humour and optimism decreased once stress levels reached a high level. The first question asked the participants to indicate if they were feeling more stressed in the last 6 months. If participants agreed to this question, they were instructed to answer question 2 and 3. Question 2 asked the participants to tick one of the following statements according to which one most applied to them: a) that

they used to be able to use humour to cope with problems until their stress level increased, b) that they hardly ever used humour to cope with problems even before their stress level increased, and c) that they have always used humour to cope with problems both before and after their stress level increased. Question 3 also asked the participants to tick one of the following statements according to which one most applied to them: a) that they used to be optimistic until their stress level increased, b) that they were hardly ever optimistic, even before their stress level increased, and c) that they have always been optimistic both before and after their stress level increased. On Questions 2 and 3, A was scored 1, B was scored 2, and C was scored 3. In Section C (see Appendix I), the participants were asked to indicate their sex.

Each questionnaire package that was distributed to Edith Cowan University lecturers was accompanied with an Internal Mail envelope. The lecturers from the other universities received a Mail West envelope with their questionnaire package. Both the Internal Mail and Mail West envelopes enabled the participants to return their completed questionnaires, at no cost to themselves, to the School of Psychology at Edith Cowan University.

### Procedure

After permission was obtained from the Heads of the disciplines, a package of questionnaires was personally delivered to the appropriate secretary of each discipline. Each secretary was also provided with a brief hand written set of directions, informing them that permission had been granted from the Head of the discipline to carry out the study and requesting that one envelope (containing the questionnaire package) was to be placed in the mailbox of each lecturer within the

discipline. No names or any other identifying information, such as the name of the lecturers' disciplines, was obtained to ensure the anonymity of the universities, disciplines, and lecturers. Therefore, each lecturer received a blank envelope in his or her mailbox. The lecturers were informed in their cover letters that the questionnaires would take less than 15 minutes to complete and they were further asked to return their completed questionnaires within two weeks. It was also indicated to them in the letters that their participation was voluntary and that, for those who returned completed or partially completed questionnaires, it would be assumed that they had provided consent to participate in the study and to have their responses published as group data in a report suitable for publication.

All completed questionnaires were returned within a period of four weeks. They were coded as reported in the Materials section. A reliability check was performed by having a second coder score 1/3 of the completed questionnaires. This demonstrated 99.2% reliability between the coders.

## CHAPTER THREE

### Results

#### Evaluation of Assumptions

The first step was to screen the data to evaluate the assumptions. The examination of residual scatterplots and a histogram revealed that the assumptions of normality, linearity, and homoscedasticity were reasonably well met (see Appendix J). Frequency histograms were further examined to confirm that the assumption of normality had been met. The assumption was met for each variable, except for pessimism, which was negatively skewed. However, as neither a square root nor a logarithmic transformation led to any significant improvement, pessimism was not transformed (see Appendix K). Multicollinearity and singularity were not present. The data were examined for univariate outliers by examining standardized scores. Two cases were identified as having outliers (that is, standardized scores  $> 3$ ) and were subsequently deleted from the analysis. Mahalanobis' distance ( $p < .001$ ) identified no multivariate outliers.

#### Principle Components Analysis

To investigate the factor structure of the Life Orientation Test- Revised, a principle components analysis was conducted. The aim of this analysis was to determine whether the Life Orientation Test- Revised should be treated as one overall optimism scale or two separate optimism and pessimism scales for subsequent analyzes.

A principle components analysis with varimax rotation was performed on the 6 variables from the Life Orientation Test- Revised. Two factors with eigenvalues

greater than one were extracted, together accounting for 69.13% of the variance in the set of variables. The factor loadings, communalities ( $h^2$ ), and percentages of variance explained after varimax rotation are shown in Table 1. Factor loadings less than .40 have been suppressed to aid interpretation, a value that Tabachnick and Fidell (1989) consider to be a fair measure of a factor. The factor structure was mainly as expected. Variables reflecting positive expectancies loaded highly on one factor and variables reflecting negative expectancies loaded highly on a second factor. However, one positive expectancy variable, "Overall, I expect more good things to happen to me than bad", loaded heavily on both factors. This was not surprising, however, as the content of the item taps both optimism and pessimism. A decision was made to retain this item on the factor representing positive expectancies. Thus, the standard sub-scales were used to maximize comparability.

Overall, the results from the principle components analysis indicated that the Life Orientation Test- Revised was composed of two dimensions, an optimism and a pessimism dimension. Consequently, the separate optimism scores and separate pessimism scores were used for the remaining analyses, as recommended by Scheier et al. (1994).

### Hierarchical Regression and Bivariate Correlations

A hierarchical multiple regression analysis was performed to determine whether humour, optimism, and pessimism, followed by the interactions between perceived stress, and humour, optimism, and pessimism, and lastly gender could significantly predict lecturers' burnout after perceived stress had been accounted for.



Table 1

Varimax Rotated Factor Loadings for the Life Orientation Test- Revised

Item	Factors		$h^2$
	1	2	
In certain times, I usually expect the best	.86	...	.76
I'm always optimistic about my future	.85	...	.76
Overall, I expect more good things to happen to me than bad	.49	.55	.54
I rarely count on good things happening to me	...	.76	.67
If something can go wrong for me, it will	...	.81	.67
I hardly ever expect things to go my way	...	.85	.74
% of variance	30.57	38.57	69.13
Label	Optimism	Pessimism	

The hierarchical multiple regression analysis was performed with 4 steps. In step 1, perceived stress was entered as the predictor of burnout. In step 2, humour, optimism, and pessimism were entered into the predictive equation. In step 3, the interactions between perceived stress and humour, perceived stress and optimism, and perceived stress and pessimism were entered into the equation to determine whether humour, optimism, and pessimism had a moderating effect on the

relationship between stress and burnout. The interactions consisted of the separate products of perceived stress, and humour, optimism, and pessimism. Gender was entered into the predictive equation in step 4. Due to the exponential increase in size for the interaction term, all scores were converted into  $z$  scores to standardize their distribution (the untransformed analyses showed the same pattern of results).

Table 2 displays the correlations between the variables, the unstandardized regression coefficients ( $B$ ) and standardized regression coefficients Beta ( $\beta$ ),  $R^2$  change at each step, and  $R$ ,  $R^2$ , and adjusted  $R^2$  after entry of all eight independent variables (including the interaction terms). Multiple  $R$  was significantly different from zero at the end of each step. After step 4, with all independent variables in the equation,  $R = .69$ ,  $F(8, 171) = 19.19$ ,  $p < .001$ . The initial contribution of perceived stress was significant,  $R^2 = .42$ ,  $F(1, 178) = 127.54$ ,  $p < .001$ . As expected, perceived stress was also significantly and positively correlated with burnout,  $r(178) = .65$ ,  $p < .001$ . After step 2, with humour, optimism, and pessimism added to the prediction of burnout,  $R^2 = .47$ ,  $F(4, 175) = 38.49$ ,  $p < .001$ . Addition of the three variables, humour, optimism, and pessimism together, resulted in a significant increment in  $R^2$ ,  $R^2$  change = .05,  $p < .001$ . Correlations revealed that humour was significantly inversely correlated with burnout,  $r(178) = -.27$ ,  $p < .001$ . Optimism was also significantly inversely correlated with burnout,  $r(178) = -.51$ ,  $p < .001$ . A significant inverse correlation between pessimism and burnout was also revealed,  $r(178) = -.47$ ,  $p < .001$ . This coefficient was as expected given that high scores on the pessimism scale represented low pessimism. After step 3, with the interaction terms entered into the equation,  $R^2 = .47$ ,  $F(7, 172) = 21.70$ ,  $p < .001$  and  $R^2$  change = .00,  $p > .05$ . Addition of the combined interactions to the equation did not reliably

Table 2  
Correlations Between Variables and Hierarchical Regression of Predictor Variables On Burnout

Variables	Burnout	Stress	Humour	Optimism	Pessimism	Stress x Humour	Stress x Optimism	Stress x Pessimism	Final Beta ( $\beta$ )	R <sup>2</sup> Change
Stress	.65***								.50	.42***
Humour	-.27***	-.19**							-.12*	.05***
Optimism	-.51***	-.55***	.26***						-.18*	
Pessimism	-.47***	-.59***	.18*	.53***					-.06	
Stress x Humour	-.17*	-.31***	.05	.14	.09				.01	.00
Stress x Optimism	-.21**	-.32***	.12	.27***	.18*	.41***			.01	
Stress x Pessimism	-.18*	-.31***	.08	.19*	.21**	.23**	.68***		.03	
Gender	-.08	-.02	-.02	.05	.06	-.01	.10	.12	-.07	.00
Means	50.33	31.28	20.08	8.82	9.19	623.31	268.26	279.06		
Standard deviation	14.49	7.46	3.31	1.87	1.93	160.57	59.84	958.53		
Overall Regression: $F(8,171) = .69, p < .001$										
$R^2 = .47***$										
Adjusted $R^2 = .45***$										

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

Note: The untransformed means and standard deviations are shown in Table 2. The means for the  $z$  scores are shown in Appendix L

improve  $\underline{R}^2$ . Given that the interaction terms did not further add to the predictive power of the analysis when the previous variables had been taken into account, it was of interest to ascertain whether the interactions alone were predictive of burnout. Further analyses revealed that when only the interaction terms were entered into a standard regression together in combination, the interactions significantly predicted burnout,  $\underline{R}^2 = .06$ ,  $\underline{F}(3, 176) = 3.50$ ,  $p < .05$ . However, as demonstrated by the main hierarchical regression analysis, once stress, humour, optimism, and pessimism were entered first into the hierarchical regression, the combined interactions did not significantly add to the model. After step 4, with gender added to the prediction,  $\underline{R}^2 = .47$ ,  $\underline{F}(8, 171) = 19.19$ ,  $p < .001$  and  $\underline{R}^2$  change = .00,  $p > .05$ . Addition of gender did not significantly improve  $\underline{R}^2$ . Therefore, steps 3 and 4 did not add reliably to the model.

It was also of interest to examine which variables in step 2 were the most useful to the predictive model. To answer this question, a separate  $\underline{R}^2$  change was calculated for each of the three variables, humour, optimism, and pessimism. According to Pedhazur (1982), the  $\underline{R}^2$  change reflects the proportion of variance of the dependent variable accounted for by a given independent variable after the other variables have been taken into account. Therefore, a series of separate hierarchical multiple regression analyses were calculated with perceived stress and two of the variables entered in the first step, and the remaining variable entered in the second step.

In the first analysis, after step 1, with perceived stress, humour, and optimism in the equation,  $\underline{R}^2 = .47$ ,  $\underline{F}(3, 176) = 51.12$ ,  $p < .001$ . After step 2, with pessimism added to the prediction of burnout,  $\underline{R}^2 = .47$ ,  $\underline{F}(4, 175) = 38.49$ ,  $p < .001$

and  $\underline{R}^2$  change = .00,  $p > .05$ . Therefore, the addition of pessimism to the equation did not result in a significant increment in  $\underline{R}^2$ . In the second analysis, after step 1, with perceived stress, humour, and pessimism in the equation,  $\underline{R}^2 = .45$ ,  $F(3, 176) = 47.81$ ,  $p < .001$ . After step 2, with optimism added to the prediction of burnout,  $\underline{R}^2 = .47$ ,  $F(4, 175) = 38.49$ ,  $p < .001$  and  $\underline{R}^2$  change = .02,  $p < .05$ . Optimism significantly added to the prediction of burnout. In the third regression analysis, with perceived stress, optimism, and pessimism in step 1 in the equation,  $\underline{R}^2 = .45$ ,  $F(3, 176) = 48.82$ ,  $p < .001$ . After the addition of humour to the equation,  $\underline{R}^2 = .47$ ,  $F(4, 175) = 38.49$ ,  $p < .001$ . Humour resulted in a significant increment in  $\underline{R}^2$ ,  $\underline{R}^2$  change = .01,  $p < .05$ . Therefore, humour and optimism significantly and uniquely contributed to the variance of burnout, after the remaining variables were accounted for. However, pessimism did not significantly contribute to the variance in burnout.

It is also of interest to look at the correlations between the predictor variables, humour, optimism, pessimism, perceived stress, and gender. Coping humour was significantly but weakly positively correlated with optimism,  $r(178) = .26$ ,  $p < .001$ , and to a lesser extent with pessimism,  $r(178) = .18$ ,  $p < .05$ . Thus, high humour scores were significantly related to high optimism and low pessimism scores. Although perceived stress was significantly negatively correlated with coping humour,  $r(178) = -.18$ ,  $p < .05$ , this correlation was particularly weak. Perceived stress was also significantly negatively correlated with optimism,  $r(178) = -.55$ ,  $p < .001$ , and pessimism,  $r(178) = -.59$ ,  $p < .001$ . Thus, high optimism scores and low pessimism scores were related to low stress appraisal scores. Gender was not significantly correlated with any of the variables ( $p > .05$ ).

In summary, the findings from the hierarchical multiple regression analyses indicated that humour and optimism were significant predictors of burnout, even after perceived stress had been accounted for. However, pessimism did not significantly add to the prediction of burnout, even though it was significantly correlated with burnout. The interactions between perceived stress, and humour, optimism, and pessimism were significantly predictive of burnout when they were together entered into a standard multiple regression analysis. However, when the interactions were entered into a hierarchical multiple regression analysis after perceived stress, humour, optimism, and pessimism, they did not significantly add to the prediction of burnout. The lecturers' gender did not significantly predict burnout scores, nor was it significantly correlated with any of the variables in the study.

#### Retrospective Reports of Changes in Humour and Optimism Levels Since Increase in Perceived Stress

A further interest in the present study is whether stress levels can increase to the point that humour and optimism can no longer be used to help the lecturers cope with stress. Participants were therefore asked to retrospectively indicate whether their stress level had increased over the last six months, and if so, whether their use of humour and optimism levels decreased.

An examination of the frequencies (Appendix M) revealed that 50% of the lecturers felt that their stress levels had increased over the last six months. Out of these lecturers, 25.6% reported that they used to use humour to cope with their problems until their stress level increased, 17.8% reported that they hardly ever used humour even before feeling more stressed, and 56.6% reported always using

humour, both before and after feeling that their stress level had increased.

Furthermore, 35.6% reported that they were optimistic until they felt more stressed in the last six months, 10% reported that they were hardly ever optimistic even before feeling more stressed, and 54.4% indicated that they had always been optimistic, both before and after feeling more stressed.

In summary, findings from the examination of frequencies indicated that a quarter of the lecturers, who had experienced an increase in stress in the last six months, reported that their use of humour to cope with problems had declined. Furthermore, just over one quarter of the lecturers, who reported an increased stress level, also believed that their optimism had reduced.

## CHAPTER FOUR

### Discussion

The present study effectively contributed to the literature on stress, humour, and optimism. It was the first study to examine the relationship between humour, optimism, and pessimism, and burnout in the academic population. It was the first study to measure optimism with the Life Orientation Test- Revised as a research tool. It was also the first study to measure the optimism and pessimism constructs separately, a recommendation that was made by Scheier et al. (1994). Therefore, the present study has improved considerably from previous research in the area of stress, humour, and optimism.

A major hypothesis of the study was that that once perceived stress had been accounted for, the lecturers' humour, optimism, and pessimism, followed by the interactions between perceived stress and humour, optimism, and pessimism would improve the prediction of their level of burnout. The findings indicated that pessimism and gender did not significantly predict burnout, nor was burnout significantly predicted by the interactions between perceived stress and humour, optimism, and pessimism, when stress, humour, optimism, and pessimism had been accounted for. However, the results revealed that humour and optimism significantly predicted burnout even after perceived stress had been accounted for. The present study is therefore one of the few studies to have found a main effect for humour and optimism on psychological well-being.

Chapter Four will discuss the major findings and implications of the present study, under separate sections pertaining to humour and optimism. It will conclude with a brief summary of suggestions for future research.



## Humour

The correlational analyses revealed that humour was significantly positively related to optimism and pessimism, and significantly inversely related to perceived stress and burnout. These results allow us to make several deductions about the nature of the variables. The significant positive relationship between humour and optimism and humour and pessimism suggests that the lecturers who use humour to cope with stress also have high levels of optimism and low levels of pessimism. Although this is important information, the correlations between humour, optimism, and pessimism were weak. Thus, we can only tentatively predict that a lecturer with a high level of coping humour will also have a tendency to expect positive outcomes in life rather than negative outcomes.

The significant negative relationship between humour and perceived stress and humour and burnout suggests that as the lecturers' humour levels increase, their levels of perceived stress and burnout also decrease. This correlation may suggest that a high level of coping humour helps to lower lecturers' perceived stress and consequently their burnout levels since burnout is believed to be a consequence of stress, although as with all correlational designs, the direction of causality is difficult to determine. It is possible that low levels of perceived stress and burnout cause lecturers to be able to use humour to cope with stress. What is more certain is that the finding is consistent with that of Fry (1995), who found that low burnout and stress scores were associated with high humour scores. Other researchers in the past have also demonstrated a significant inverse correlation between humour and negative life events (for example, Martin & Lefcourt, 1983; Nezu et al., 1988;

Overholser, 1992; Safranek & Schill, 1982). It should be noted, however, that the correlations were weak, hence limiting our ability to predict academics' stress and burnout levels on the basis of their humour levels.

With respect to the lecturers' retrospective reports of changes in stress and humour levels, an interesting finding was that out of the lecturers who reported an increase in stress level in the last six months, 25.6% reported that they previously used humour to cope with their problems until their stress level increased. This was in contrast to the 56.6% of lecturers who used humour both before and after feeling more stressed. This suggests that for a large proportion of lecturers, humour is a relatively stable characteristic that endures even through heightened perceived stress. However, for a certain proportion of lecturers, when stress levels become so high, humour no longer serves as an effective means for coping with stress, despite their usual use of humour to cope with stress. This is an important finding. Many previous researchers, whose cross-sectional investigations have shown an inverse relationship between stress and humour, seem to make the assumption that humour always reduces stress. They apparently fail to consider what might happen to people's humour should their stress levels increase even further (for example, Carroll & Shmidt, 1992; Prerost, 1993; Safranek & Schill, 1982). Certainly, a longitudinal and an experimental design would have more effectively tested this notion. However, the fact that a quarter of the lecturers reported that their humour levels decreased when their stress levels increased, is a good indicator that humour may no longer help some people to cope with their problems when their stress becomes so high.

The hierarchical multiple regression analysis revealed that humour was significantly predictive of burnout after perceived stress had been accounted for, suggesting that the degree to which lecturers use humour is a good indicator of the degree of burnout that they may be experiencing. However, the interaction between humour and perceived stress did not significantly predict burnout, after perceived stress, and optimism and pessimism had been accounted for. Thus, humour had a direct influence on burnout but did not moderate the relationship between perceived stress and burnout. The findings are similar to those of Overholser (1992), who found that whilst humour had a main effect on students' scores of depression, self-esteem, and loneliness at time 1, the interaction between humour and stress did not significantly predict depression, self-esteem, and loneliness.

The findings of the hierarchical multiple regression analysis, however, are in contrast to those of Fry (1995), who found that humour did not account for a significant proportion of the variance in burnout in a group of female executives. Instead, Fry (1995) found that the interaction between humour and hassles had a moderating effect on the executives' level of burnout. The present study's findings are also incongruent with those of other previous studies. For example, Safranek and Schill (1982) found that humour use and humour appreciation did not have a significant main effect on anxiety and depression among university students. Martin and Lefcourt (1983) also found that humour did not have a main effect on mood disturbance in a sample of university students. Instead, the interaction between humour and stress (negative life events) significantly predicted disturbed moods after accounting for stress. Although Nezu et al. (1988) found humour to have a main effect on depression at both time 1 and 2 of their prospective study, they also

found support for a buffering effect, in that the interactions between stress and humour predicted depression in university students.

The present study therefore found evidence for a main effect, unlike several previous findings that have demonstrated support for a buffering effect. Although these conflicting results could be due to differences in sample sizes and hence power (as discussed in Chapter One), it may also be that, in comparison to previous studies, different variables were used in the present investigation. The present study measured perceived stress, whereas previous studies have measured either hassles or negative life events as measures of stress. As criterion variables, previous researchers have also measured depression, with the implicit assumption that this variable is directly related to stress. It is possible that humour has a direct influence on burnout but not on depression, which may explain why the present study found support for a main effect. Depression is likely to be far more multidetermined than burnout, a variable that is plausibly directly related to stress. It is therefore possible that because of the very nature of the depression construct, it was more significantly related to the interaction between stress and humour. Clearly, research is needed to delineate the circumstances where humour has a main effect or a buffering effect on psychological well-being. This would help clarify the inconsistent findings that have been demonstrated in the area so far.

Overall, the results from the hierarchical multiple regression analysis suggest that, although perceived stress is a necessary condition to cause burnout, not everyone who is stressed will burnout, as humour predicted burnout scores over and above stress. This is an important finding. It implies that we should not assume that stress is the only cause of burnout. Although previous literature documents a causal

relationship between stress and burnout (for example, Pines & Aronson, 1988) and the correlational analyses in the present study demonstrated a significant positive relationship between stress and burnout, the findings suggest that other factors are also predictive of and related to burnout. It seems that among the sample of university lecturers studied, humour is an influential factor in the experience of stress and hence burnout. Of course, this suggestion needs to be interpreted with caution due to the correlational nature of the study, the weak correlations obtained, and as stated earlier, a particularly high level of stress may preclude the beneficial effects of humour from occurring.

### Summary

The present study demonstrated that humour had a main effect on burnout, suggesting that stress is not the only factor predicting burnout but that humour also has a direct influence on the experience of burnout. It also seems that humour is a relatively stable individual characteristic for many people. However, we cannot assume that humour will always inoculate people against stress, particularly when stress levels increase further.

### Optimism

The correlational analyses revealed a significant inverse relationship between optimism and perceived stress and between optimism and burnout, as well as a significant inverse relationship between pessimism and perceived stress and pessimism and burnout. These results indicate that as the lecturers' levels of optimism increase, their levels of perceived stress and burnout decrease.

Furthermore, as their pessimism levels decrease, their perceived stress and burnout levels also decrease. Thus, high levels of optimism and low levels of pessimism are associated with lower levels of perceived stress and burnout in lecturers. As mentioned earlier, the direction of causality cannot be assumed. A low level of perceived stress and burnout may in fact cause a person to feel more optimistic and less pessimistic. The finding of an inverse relationship between optimism, and stress and burnout is consistent with that of Fry (1995), who also found a significant inverse relationship between optimism and stress and optimism and burnout. As discussed in Chapter One, other researchers have also demonstrated a negative relationship between optimism and stress (for example, Aspinwall & Taylor, 1992; Scheier et al., 1989; Sumi et al., 1997). These results need to be interpreted with caution, as the correlations were particularly weak. Therefore, we cannot strongly claim that as an individual's optimism level increases and pessimism level decreases, his or her stress and burnout levels will also decrease.

The retrospective reports in the present study showed that out of the lecturers who felt more stressed in the last six months, 54.4% of the lecturers stated that they had always been optimistic both before and after their increased stress level. However, 35.6% reported that they were no longer optimistic since their increase in stress. This finding indicates that for a large proportion of lecturers, optimism is a stable trait that is maintained through increased stress levels. However, for a certain percentage of lecturers who are usually optimistic in nature (over a quarter in the study), when stress reaches to a high level, optimism declines. The benefit of a longitudinal and experimental design was briefly mentioned in the previous section. A longitudinal study would have more effectively tested the idea that once stress

increases to a particular point, optimistic natured individuals begin to lose some of their optimism. This is an interesting idea given the assumption that optimism is a stable trait (Scheier & Carver, 1992).

The results of the hierarchical multiple regression analysis demonstrated that academics' level of burnout can be predicted on the basis of their optimism level, even after their perceived stress had been accounted for. This finding is congruent with that of Fry (1995), who also found optimism to account for a significant proportion of the variance in burnout in the female executives, even after partialling out the variance due to stress. The finding is also consistent with previous research findings that have found a main effect for optimism. For example, Scheier et al. (1989) found that optimism exerted a pervasive effect on coronary heart patients' physical and psychological well-being and rate of recovery. Scheier and Carver (1992) also found optimism to be a significant predictor of changes in perceived stress, depression, loneliness, and social support among university students.

The present study did not find the interaction between optimism and perceived stress to be significantly predictive of the lecturers' burnout. This finding suggests that optimism, like humour, did not moderate the relationship between perceived stress and burnout. Thus, the nature of the relationship between perceived stress and burnout did not vary with respect to optimism scores. Although a large proportion of research on optimism and stress has found support for a main effect model (unlike the research in the area of stress and humour), this finding is incongruent with that of Lai (1995). Lai (1995) found that only the interaction between hassles and optimism was a significant predictor of physical symptoms among university students. Lai (1995) did, however, measure different variables to

the present study. More research is also needed to clarify the circumstances where optimism has a main effect or buffering effect on psychological well-being.

An unexpected finding in the present study was that although pessimism was significantly and negatively related to burnout, it did not significantly predict the lecturers' burnout. This finding is inconsistent with Bromberger and Matthew's (1996) results, which showed that pessimism significantly predicted depression in pre-menopausal women. The reason for the unexpected finding in the present study may lie in the fact that optimism and pessimism were highly correlated with one another and the majority of the variance of burnout scores was explained by the optimism variable. It should be noted that the interaction between pessimism and perceived stress also failed to significantly predict burnout scores, suggesting that pessimism did not moderate the relationship between stress and burnout.

The principle components analysis, which was performed to examine the dimensionality of the Life Orientation Test- Revised, revealed some interesting findings. To recap, it was hypothesized that the scale would consist of two factors, with all optimistic items loading highly on one factor to reflect optimism and all pessimistic items loading highly on a second factor to reflect pessimism. The hypothesis was primarily supported. Variables reflecting positive expectancies loaded highly on one factor and variables reflecting negative expectancies loaded highly on the second factor. One positively worded variable loaded heavily on both. However, to be consistent with previous research (Scheier et al., 1994), a decision was made to retain the item on the factor that represented positive expectancies.

These findings indicate that rather than representing a single optimism factor, the Life Orientation Test- Revised is bidimensional and consists of two scales, a



pessimism scale and an optimism scale. These results pointed to the necessity to treat the scale as bidimensional and to therefore measure the lecturers' levels of both optimism and pessimism in the present study. Thus, rather than calculating an overall optimism score, separate optimism and separate pessimism scores were calculated and entered into the subsequent analyses.

The results of the principle components analysis are important in that they replicate the findings of previous research (Chang et al., 1994; Chang et al., 1997; Hjelle et al., 1996; Sharpe et al., 1994). These researchers found that a two-factor model effectively represented the items of the Life Orientation Test with positively worded items loading highly on one factor and negatively worded items loading highly on the second factor. However, these researchers analyzed the original Life Orientation Test, unlike the present study, in which the revised scale was examined. The results of the present study are also consistent with those of Scheier et al. (1994), who found, in their confirmatory factor analysis, that a two-factor model provided an acceptable fit to the items in the Life Orientation Test- Revised. It should be noted that these researchers did not report any specific difficulties with the items, which, of course, is in contrast with the results in the present study, in which one positively worded item was found to load highly on both factors.

Two questions arise from the results of the principle components analysis: Are the results suggesting that the optimism and pessimism variables are two independent constructs, whereby people can have characteristics of both? Or alternatively, are the results merely implying that the Life Orientation Test- Revised is composed of two sub-scales of an overall measure?

Previous researchers, who have found support for a two-factor model, suggest that people can be both optimistic and pessimistic at the same time, with the assumption that if people can simultaneously obtain scores on an optimism and pessimism scale, they can have characteristics of both (Chang et al., 1994; Chang et al., 1997). This is an interesting thought as it contradicts what many people have tended to believe in relation to optimistic and pessimistic people, that is, that optimistic and pessimistic people are either one or the other. Instead, it implies that people could be high on both optimism and pessimism, low on both optimism and pessimism, or low on one and high on the other. It would be interesting to see further research examine the nature of people who are both optimistic and pessimistic or neither optimistic or pessimistic. It does seem possible that a large proportion of people could be both optimistic and pessimistic but in different areas of life, that is, highly optimistic about one aspect of life (for example, family) and highly pessimistic about another aspect of life (for example, work). This idea casts doubt on Scheier and Carver's (1992) belief that optimism is a 'trait', as a general assumption made about traits is that they usually generalize across time and context. Instead, the idea that people can be both optimistic and pessimistic suggests that optimism is not a trait, but is instead situationally-specific.

Another implication that stems from the notion that people could be both optimistic and pessimistic at the same time is that a new optimism-pessimism scale may be warranted. The Life Orientation Test was designed to measure generalized expectancies (as supposed to situational-specific expectancies), with the underlying assumption that people are either optimistic or pessimistic. Therefore, the scale does not account for people being optimistic about certain aspects of their lives and

pessimistic about others. The development of a work-specific optimism-pessimism scale would be useful, given that the present study focused on an organizational setting.

As with all factor analytic studies, the findings of the principle components analysis in the present study need to be interpreted with some degree of caution, as there are a variety of ways to interpret the factors. For example, instead of optimism and pessimism, the constructs could have been labeled as 'positively worded' and 'negatively worded', which informs us of very little in comparison to 'optimism' and 'pessimism'. However, despite this limitation, given that the findings in the present study have replicated those of previous researchers, there is still reason to question the validity of the traditional view of optimism and pessimism as polar opposites on a single dimension. Although the findings in the present study are not conclusive, the results are consistent with the two-dimensional model of optimism and pessimism.

### Summary

The findings in the present study demonstrated that optimism, but not pessimism, is significantly predictive of burnout over and above perceived stress. As for humour, neither optimism nor pessimism moderates the relationship between perceived stress and burnout. The large number of lecturers who reported that they were optimistic despite an increased stress level, supports the notion that optimism is generally a stable trait. However, the fact that over a quarter of these lecturers reported a decline in optimism since feeling more stressed is indicative that the direction of influence between optimism and burnout is likely to be two-way. The

finding of a two-factor model on the Life Orientation Test- Revised is congruent with previous research findings and causes us to question the validity of the traditional unidimensional model of optimism and pessimism.

#### Suggestions for Future Research

There were several limitations in the present study, which could be rectified by further studies. One drawback of the present study was its cross-sectional design. As with all cross-sectional research, interpretation of causality is hindered. For example, concurrent correlations between humour, optimism, and pessimism, and burnout could be given three interpretations. Firstly, we could say that humour, optimism, and pessimism have caused changes in burnout. Secondly, we could say that burnout has caused changes in humour, optimism, and pessimism. Thirdly, an alternative factor may be causing changes in all four variables. Longitudinal studies would help to rectify this problem.

As with all cross-sectional research, any changes in scores on the variables could not be assessed. It is possible that, had the lecturers been assessed later during the semester when their workload was likely to have increased, their stress levels would have been higher. Hence, their scores on the other variables may have changed. Certainly, a longitudinal design would rectify this weakness by enabling a comparison of stress and burnout levels from one time to another, and thus allowing us to identify any resulting changes in humour and optimism levels. This would be particularly informative for Section B of the questionnaires, in which lecturers are asked to report if they have experienced an increase in stress over the last six months and, if so, whether their coping humour and optimism levels have changed. In

particular, for those lecturers who indicated that they still used humour and were still optimistic in spite of feeling more stressed, it would be interesting to investigate whether their humour and optimism eventually decreased when their stress level further increased.

The findings of the present study remain limited in their generalization to populations outside of the academic population. Further research in the area of burnout, humour, and optimism is needed in the clinical population, as, to date, no such research has been conducted in this population. However, it should be noted that research on stress and burnout in university lecturers is useful because, as substantiated by previous research findings, academics are a particularly vulnerable group to the experiences of stress and burnout (Blix et al., 1994; Sharpe, 1988).

Another potential limitation relates to the alterations that were made to the Maslach Burnout Inventory and the Perceived Stress Scale. As noted in Chapter Two, the 'Never' columns were eliminated from both scales to ensure consistency among the rating scales of each measure. Whilst scoring the scales, it was observed that some of the participants (approximately 15) added a 'Never' column to the scales. When this was observed, a tick in this column was regarded as being a response in its nearest column (that is, 'A few times a year' on the Maslach Burnout Inventory, and 'Hardly Ever' on the Perceived Stress Scale) and scored accordingly. These alterations may have effected the validity of these scales in the present study. This concern over scale validity is a major issue that needs to be addressed before we can advance further in our understanding in this area.

Moving away from limitations, there are other possible research paths to take. As alluded to earlier in the chapter, research is needed to delineate the

circumstances where humour and optimism serve as stress buffers and main effects on physical and psychological well-being, including burnout. For example, does the influence of humour, optimism, and pessimism differ according to the criterion variables that are selected (such as burnout, depression, or physical symptoms)? Would the results have been different if, rather than perceived stress, hassles or negative life events had been studied? Or alternatively, can the conflicting findings be explained by different sample sizes across studies? Such research would help to clarify the inconsistencies in findings that have been demonstrated in the literature.

Another suggestion for future research is the inclusion of a larger participant group, so that a path analysis could be performed to examine the data. A path analysis may more effectively examine the connection between all the variables in the study and, more specifically, the patterns of partial correlations among the variables (Whitley, 1996). Thus, it would provide an estimate of the strength of the relationship between stress and burnout, whilst controlling for the hypothesized mediating variables, including humour, optimism, and pessimism. The limited sample size in the present study meant that such an analysis would not have been effective.

On a general level, future research could look at the degree to which humour and optimism are of therapeutic value. Just as patients are helped to view their life experiences in less negative and catastrophic terms (for example, through cognitive behaviour therapy), it is possible that patients, who are receiving psychological or psychiatric help, could be taught how to become more optimistic. This might involve teaching patients how to see things positively and use problem-focused coping. It is also possible that patients could be taught how to use humour to cope

with problems. Similarly, this might involve teaching them how to interpret problems as challenges, as supposed to threats. In terms of promoting an optimistic outlook, this implication seems relatively manageable, as similar methods used to promote realistic thinking, a major objective of many cognitive-based therapies, could be applied to the teaching of optimistic thinking.

However, the implication begs the question as to whether someone can be taught to use humour as a coping mechanism. Several researchers have documented the way in which the use of humour in therapy can increase cohesion and interaction between patient and therapist (Richman, 1995), facilitate emotional catharsis (Dimmer, Carroll, & Wyatt, 1990), and allow 'forbidden' material to reach consciousness (Chapman & Foot, 1976; Chapman & Foot, 1977; Richman, 1996). Although these writers largely imply that therapists can facilitate humour through their interaction with patients, researchers have not yet addressed the way in which humour can be directly taught. Future research could therefore begin to identify how characteristics such as optimism and humour could be taught to people. Rather than helping patients to manage specific stressors, teaching people how to use humour and how to see things optimistically might be more therapeutically effective. Given that humour and optimism are relatively stable traits, their benefits would be generalized to help people deal with a range of stressful situations and events.

Once researchers have identified the ways in which humour and optimism can be taught, research could then examine the ways in which burnout prevention strategies could be incorporated into the lives of academics. It is possible that programmes could be developed to educate academics how to respond to stress by adopting a more humorous and optimistic state of mind. Such strategies would also

benefit professionals in other organizational contexts, particularly where occupational stress is salient. Considering the emotional, psychological, physical, and financial costs that burnout causes for the individual and the financial burden on society, this type of research is important.

In relation to the findings of the principle components analysis, further research is needed to clarify the factor structure of the Life Orientation Test- Revised. This was only the second study to examine the structure of the revised scale. In particular, research needs to address the problematic item that was shown to load heavily on both factors in the present study. If further research demonstrates difficulty with this item, it might be worth omitting the item from the scale. It also seems necessary to address the reliability of the Life Orientation Test. Despite the fact that the original Life Orientation Test is by far the most predominant scale in the literature, it is evident that the revised scale's reliability is particularly low (reported in Chapter Two). It seems that either major revisions to the current scale or the development of a new optimism measure are warranted. Further research should also be conducted to clarify the nature of the two factors on the Life Orientation Test- Revised. Are they reflecting two sub-scales, or alternatively, two independent personality constructs, whereby people can have characteristics of both? If future findings suggest that the scale is measuring independent personality constructs, the development of a new optimism-pessimism scale that measures situational-specific expectancies, rather than generalized expectancies, may be warranted. This would account for people being both optimistic and pessimistic about different aspects of their lives.



### Final Summary

The present study has demonstrated that humour and optimism can have a direct effect on the severity of academics' burnout, and that we can predict lecturers' burnout on the basis of their humour and optimism scores. It seems probable that humour and optimism can help to inoculate a person against burnout. However, a particularly high stress level may also reduce humour and optimism. Also demonstrated in the present study was that, in congruency with previous research, the Life Orientation Test- Revised is composed of two separate factors, namely an optimism scale and a pessimism scale. This finding adds further support to the bidimensional model of optimism and pessimism, and implies that people can simultaneously have characteristics of both.

Overall, the present study was conceptually superior in comparison to previous research in the area of stress, humour, and optimism. Only one study has previously examined the relationship between humour, optimism, and burnout (Fry, 1995). The present study was the first study to examine these variables in university academics, a population that is highly prone to stress but has surprisingly received little research attention in relation to burnout. The present study was also the first to use the Life Orientation Test- Revised as a research tool in its measurement of optimism and pessimism, and it was the first study to measure the optimism and pessimism constructs separately.

The study has elicited a range of ideas for future research in the area of humour, optimism, and stress. In particular, some of these ideas relate to the need for longitudinal and experimental research, the clarification of circumstances where humour and optimism have a buffering or main effect on psychological well-being,

the ways in which the teaching of humour and optimism can be facilitated, and the clarification of the dimensionality of the Life Orientation Test- Revised.

In closing, the present study has effectively contributed to the literature on stress, humour, and optimism, and has helped to fill a gap within the burnout literature, particularly in relation to university lecturers. It has generated some interesting ideas for future research, which, given the impact of stress and burnout at both an individual and societal level, should not be ignored. Although there are still many questions to be answered, this study has contributed further to our understanding about such phenomena as humour and optimism, and, in particular, their relationship to burnout in academics.

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## APPENDIX A

**An Example Of The Letter Sent To The Heads Of Disciplines**

28 January 1998

Dear Professor .....

I am a second year Master of Psychology (Clinical) student at Edith Cowan University. I am currently completing my thesis in which I am investigating such factors as humour and optimism that may reduce stress levels in university lecturers. It is hoped that the university lecturers included in my study will come from all the universities in Perth and from a wide range of disciplines.

As Head of the Department of ....., I am requesting your permission to include the lecturers from your Department as part of my sample.

I want to provide the secretary with a package of questionnaires that can be placed into each of the lecturer's mailboxes. Not only would this be a quick process (occupying approximately 5 minutes of the secretary's time), but it would enhance anonymity and confidentiality within the project.

The questionnaire will take approximately 15 minutes to complete, and a copy of the cover letter and questionnaire has been attached for you perusal. The lecturers will be asked to mail the completed questionnaires back to me at Edith Cowan University in pre-paid envelopes. Their participation will be entirely voluntary and anonymous. No names are required and neither the envelopes nor the questionnaires have been coded so that participation cannot be traced once they return the questionnaire.

The results will be published as group data and in a form that no-one will be identifiable. It is not the intention of this study to compare amongst disciplines or universities, and it will not be possible given the nature of the data being collected. Although I hope to publish my results, the disciplines or universities will not be compared or identified in any way, as this information will also remain completely anonymous.

I will telephone you shortly to discuss my request. However, if you would like to make any inquiries beforehand, please contact me on ..... or my supervisor, Dr Susan Gee, School of Psychology, on .....

I would appreciate your assistance and involvement in this project and I look forward to talking with you soon.

Yours sincerely

Ms Natalie Fairclough  
School of Psychology  
Edith Cowan University

Dr Susan Gee  
School of Psychology  
Edith Cowan University

APPENDIX B

Cover Letter Received By Lecturers



20 February 1998

Dear Lecturer

I am currently completing my Master of Psychology (Clinical) at Edith Cowan University. I urgently need volunteers to participate in a study for my thesis.

I am investigating the types of factors that may reduce stress levels such as humour and optimism in university lecturers. It is expected that my findings will have implications for the development and implementation of burnout prevention programmes for academics.

Participation in the study will take approximately 15 minutes of your time and you will be required to complete the enclosed questionnaires. If you choose to participate, the completed questionnaires should be placed in the envelope provided, sealed, and then returned to the School of Psychology, Edith Cowan University (Joondalup Campus) as soon as possible. **To return the questionnaires at no cost, please send them through your university's mail system (via internal mail).** I would hope to receive your responses within a fortnight from the above date.

Your participation is voluntary, and you may leave any items blank if you prefer not to answer them.

Your participation is also anonymous. Neither the questionnaires nor the envelope have been previously coded. You are not required to give your name anywhere on the questionnaires. The data gathered from this study will be published but it will be presented as group data and in a form in which you will not be identifiable. By returning the completed or partially completed material, it will be assumed that you have given consent to participate and consent to have your responses published as group data in a report suitable for publication.

Any questions or concerns related to the project entitled "Optimism and Humour as Mediators Between Perceived Stress and Burnout" can be directed to Natalie Fairclough from the School of Psychology, Edith Cowan University, on  
or my supervisor, Dr Susan Gee, School of Psychology, on  
You are welcome to keep this letter for your future reference if you are interested in a copy of the results at a later stage.

I cannot emphasize enough how much I would appreciate your participation in my study. Your responses to my questionnaires are extremely important to me, as it would help me to complete my thesis.

Yours sincerely

Ms Natalie Fairclough  
School of Psychology  
Edith Cowan University

Dr Susan Gee  
School of Psychology  
Edith Cowan University

APPENDIX C

Coping Humour Scale  
In Section A Of Questionnaire Package

*Section A***Questionnaire A**

**This questionnaire is concerned with the way you express and experience humour. Please tick the appropriate space alongside each question, according to how much you agree or disagree with the corresponding question. Obviously, there is wide variation among individuals and therefore no right or wrong answers. Please respond to the items as honestly as possible and answer all the items.**

	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
1. I often lose my sense of humour when I'm having problems.*				
2. I have often found that my problems have been greatly reduced when I tried to find something funny in them.				
3. I usually look for something comical to say when I am in tense situations.				
4. I must admit my life would probably be easier if I had more of a sense of humour.*				
5. I have often felt that if I am in a situation where I have to either cry or laugh, it's better to laugh.				
6. I can usually find something to laugh or joke about even in trying situations.				
7. It has been my experience that humour is often a very effective way of coping with problems.				

\* Scored in the reverse direction  
Taken from Martin and Lefcourt (1983)

**APPENDIX D**

**Perceived Stress Scale  
In Section A Of Questionnaire Package**

### Questionnaire D

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. Please tick in the appropriate space alongside each question. There are no right or wrong answers. Please respond honestly and answer all the items.

	VERY OFTEN	FAIRLY OFTEN	SOMETIMES	HARDLY EVER
1. In the last month, how often have you been upset because of something that happened unexpectedly?				
2. In the last month, how often have you felt that you were unable to control the important things in your life?				
3. In the last month, how often have you felt nervous and "stressed"?				
4. In the last month, how often have you dealt successfully with irritating life hassles?*				
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?*				
6. In the last month, how often have you felt confident about your ability to handle your personal problems?*				

<p>7. In the last month, how often have you felt that things were going your way?*</p> <p>8. In the last month, how often have you found that you could not cope with all the things that you had to do?</p> <p>9. In the last month, how often have you been able to control irritations in your life?*</p> <p>10. In the last month, how often have you felt that you were on top of things?*</p> <p>11. In the last month, how often have you been angered because of things that happened that were outside of your control?</p> <p>12. In the last month, how often have you found yourself thinking about things that you have to accomplish?</p> <p>13. In the last month, how often have you been able to control the way you spend your time?*</p> <p>14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?</p>				
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\* Scored in the reverse direction

Taken from Cohen, Kamarck, and Mermelstein (1983)

APPENDIX E

Life Orientation Test- Revised  
In Section A of Questionnaire Package

**Questionnaire C**

**This questionnaire is interested in how you perceive your experiences. Please indicate the extent to which you agree or disagree with each item, by ticking in the appropriate space. There are no right or wrong answers. Please respond honestly and answer all the items.**

	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
1. In uncertain times, I usually expect the best.				
2. It's easy for me to relax. (Filler Item)				
3. If something can go wrong for me, it will.*				
4. I'm always optimistic about my future.				
5. I enjoy my friends a lot. (Filler Item)				
6. It's important for me to keep busy. (Filler Item)				
7. I hardly ever expect things to go my way.*				
8. I don't get upset too easily. (Filler Item)				
9. I rarely count on good things happening to me.*				
10. Overall, I expect more good things to happen to me than bad.				

\*Scored in the reverse direction

Taken from Scheier, Carver, and Bridges (1994)



APPENDIX F

Original Life Orientation Test

Life Orientation Test (original)

1. In uncertain times, I usually expect the best.
2. I always look on the bright side of things. #
3. I'm always optimistic about the future.
4. I'm a believer in the idea that "every cloud has a silver lining". #
5. If something can go wrong for me, it will.
6. I hardly ever expect things to go my way.
7. Things never work out the way I want them to. #
8. I rarely count on good things happening to me.

# Items that are eliminated in the LOT- R

Developed by Scheier and Carver (cited in Sharpe, Hickey, & Wolf, 1994)

**APPENDIX G**

**Maslach Burnout Inventory  
In Section A Of Questionnaire Package**

**Questionnaire B**

**This questionnaire is concerned with your responses to your work. Please indicate how often you experience the items by ticking in the appropriate spaces. There are no right or wrong answers. Please respond to the items as honestly as possible and answer all the items.**

	A few times a year	Monthly	A few times a month	Every week	A few times a week	Every day
1. I feel emotionally drained from my work.						
2. I feel used up at the end of the workday.						
3. I feel fatigued when I get up in the morning and have to face another day on the job.						
4. Working with people all day is really a strain for me.						
5. I feel burned out from my work.						
6. I feel frustrated by my job.						
7. I feel I'm working too hard on my job.						
8. Working with people directly puts too much stress on me.						
9. I feel like I'm at the end of my rope.						
10. I can easily understand how my <b>students and colleagues</b> feel about things.*						
11. I deal very effectively with the problems of my <b>students and colleagues</b> .*						

12. I feel I'm positively influencing other people's lives through my work.*						
13. I feel very energetic.*						
14. I can easily create a relaxed atmosphere with my <b>students and colleagues</b> .*						
15. I feel exhilarated after working closely with my <b>students and colleagues</b> .						
16. I have accomplished many worthwhile things in this job.*						
17. In my work, I deal with emotional problems very calmly.*						
18. I feel I treat some <b>students and colleagues</b> as if they were impersonal 'objects'.						
19. I've become more callous toward people since I took this job.						
20. I worry that this job is hardening me emotionally.						
21. I don't really care what happens to some <b>students and colleagues</b> .						
22. I feel <b>students and colleagues</b> blame me for some of their problems.						

\*Scored in the reverse direction  
**"Students and Colleagues"** changed from **"recipients"**  
 Taken from Maslach and Jackson (1981)

## APPENDIX H

### Section B Of The Questionnaire Package

***Section B***

- 1. Please answer the following question by ticking the appropriate space according to whether the statement applies to you.**

Over the last six months, I feel that my stress level has been higher than it has in the past.

- Agree    *[if Agree, continue to question 2 and question 3]*  
 Disagree    *[if Disagree, discontinue Section B and go straight to Section C]*

- 2. Please tick A, B, or C according to which statement most applies to you.**

- A. I used to use humor to cope with my problems but since my stress has increased, I am less able to.
- B. Even before I became much more stressed, I hardly ever used humor to cope with my problems.
- C. I have always used humor to help me to cope with my problems- both before and after becoming more stressed.

- 3. Please tick A, B, or C according to which statement most applies to you.**

- A. I used to be optimistic about things in my life but since my stress has increased, I have become less optimistic.
- B. Even before I became much more stressed, I was hardly ever optimistic about things in my life.
- C. I have always been optimistic about things in my life- both before and after becoming more stressed.

APPENDIX I

Section C  
Of The Questionnaire Package



*Section C*

**Please Answer This Demographic Question**

Gender: (tick either box below)

- Male
- Female

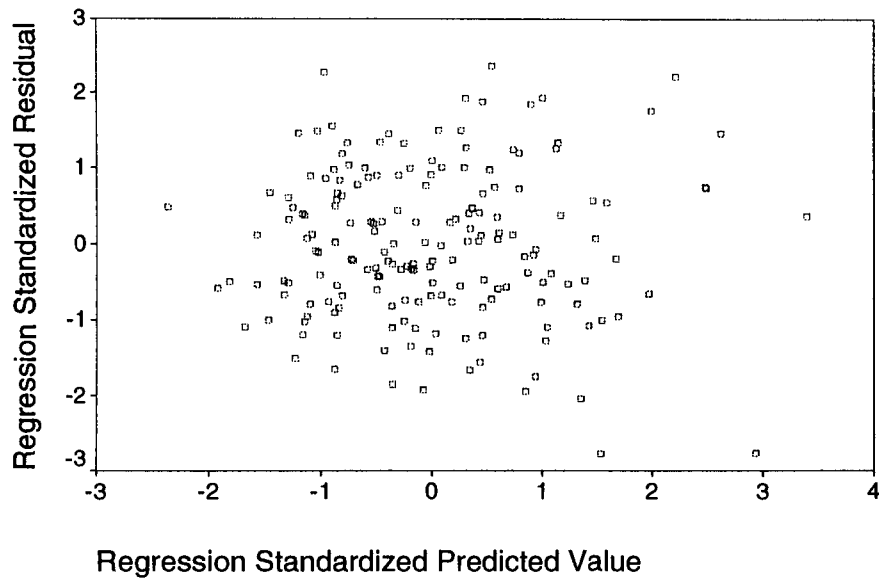
*Thank you very much*

## APPENDIX J

### Residual Scatterplot And Histogram

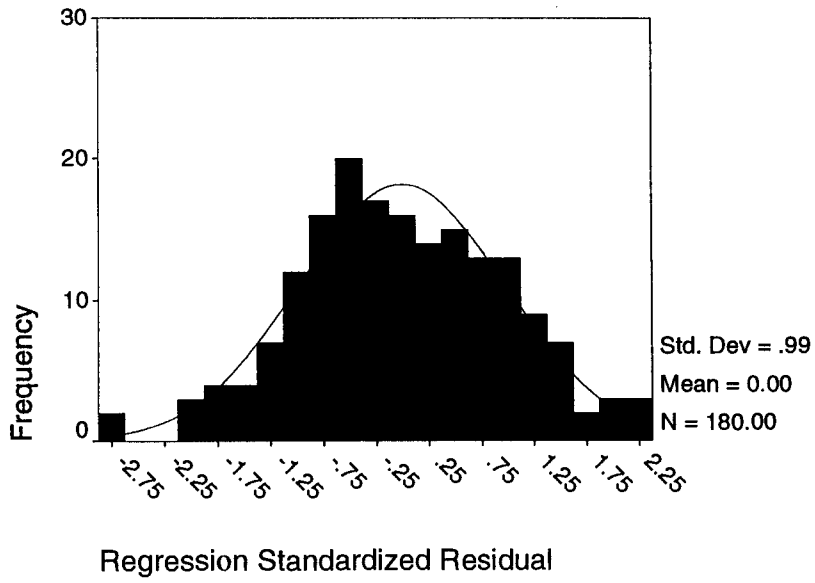
### Scatterplot

Dependent Variable: BURNOUT



### Histogram

Dependent Variable: BURNOUT

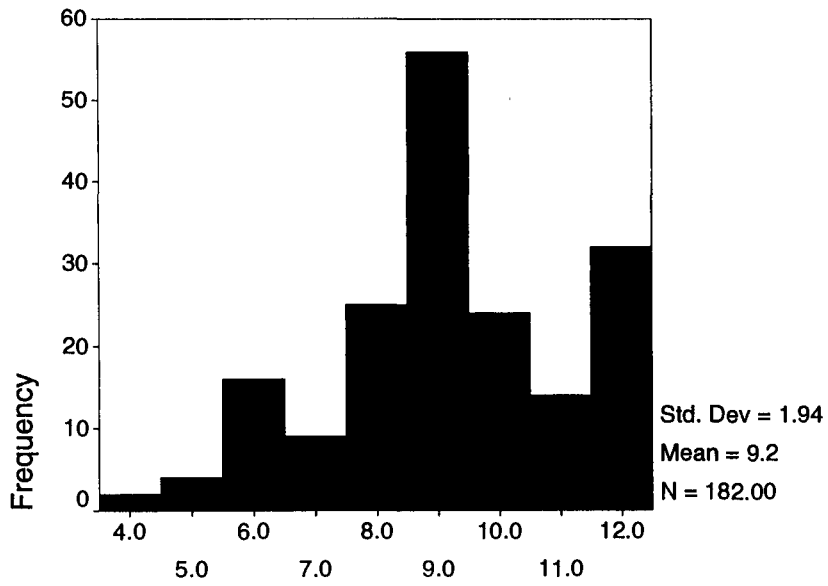


## APPENDIX K

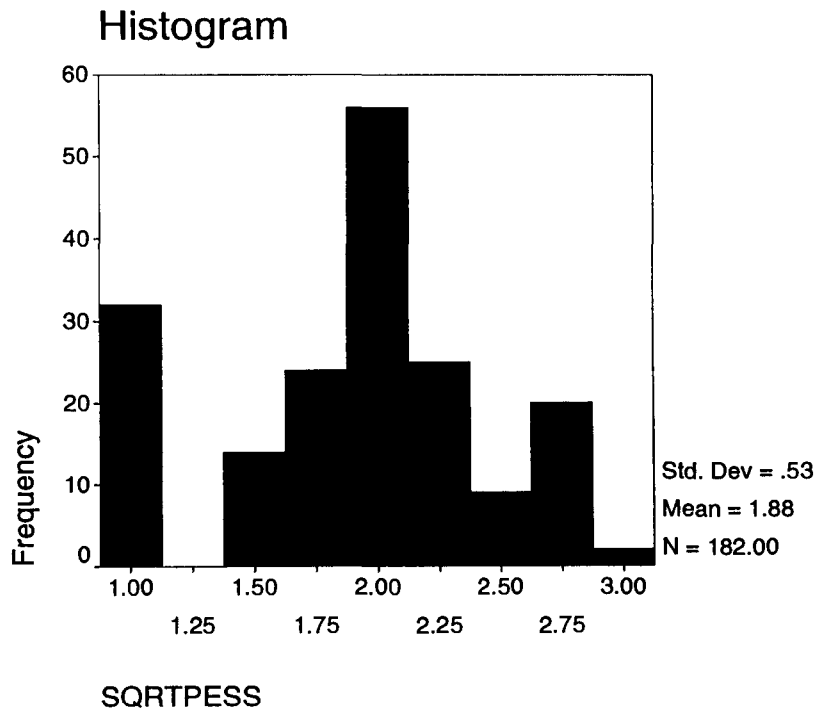
a) Histogram Showing Violation Of Assumption Of Normality For Pessimism

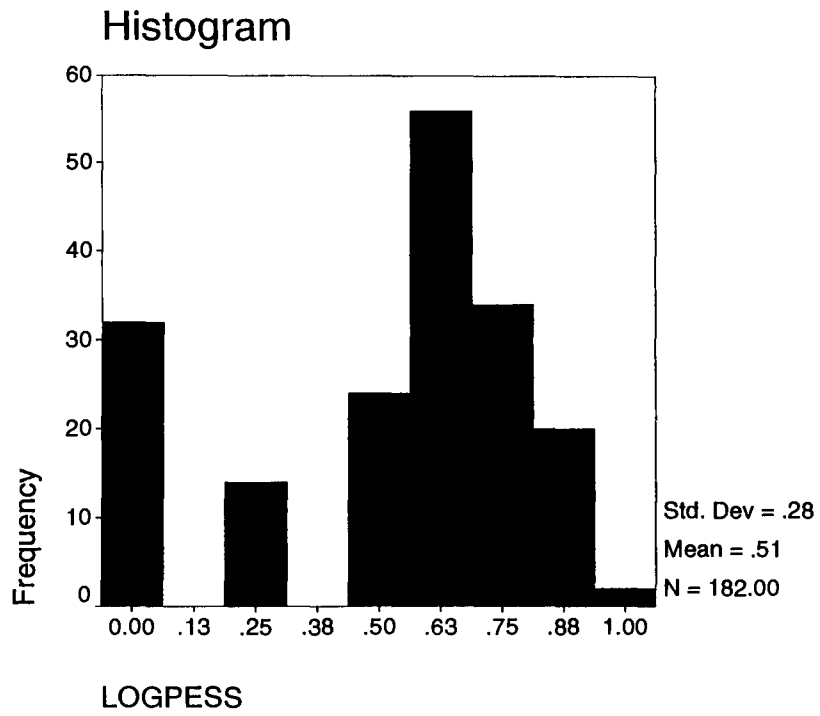
b) Histograms Showing Square Root And Logarithmic Transformations On Pessimism

Histogram



SEPARATE PESSIMISM SCORE







## APPENDIX L

Means And Standard Deviations For The z Scores

	<b>Mean</b>	<b>Standard Deviation</b>	<b>Number</b>
<b>Burnout</b>	.000	1.0000000	180
<b>Perceived Stress</b>	.000	1.0000000	180
<b>Coping Humour</b>	.000	1.0000000	180
<b>Optimism</b>	.000	1.0000000	180
<b>Pessimism</b>	.000	1.0000000	180
<b>Perceived Stress x Humour</b>	-.1895	.9911	180
<b>Perceived Stress x Optimism</b>	-.5514	1.2309	180
<b>Perceived Stress x Pessimism</b>	-.5910	1.1553	180
<b>Gender</b>	1.42	.50	180

## APPENDIX M

Frequencies For:

- a) Stress Level Over Last Six Months
- b) Use Of Humour Before And After Increase In Stress Level
- c) Optimism Before And After Increase In Stress Level

Stress Level Over Last Six Months

	Frequency	Percent	Valid Percent	Cumulative Percent
Feeling More Stressed Over Last Six Months	90	50	50	50
Not Feeling More Stressed Over Last Six Months	90	50	50	100
Total	180	100	100	

Use Of Humour Before And After Increase In Stress Level

	Frequency	Percent	Valid Percent	Cumulative Percent
No Longer Able To Use Humour Since Increase In Stress Level	23	25.6	25.6	25.6
Hardly Ever Used Humour Even Before Increase In Stress Level	16	17.8	17.8	43.3
Always Been Able To Use Humour	51	56.6	56.6	100.0
Total	90	100	100	

Optimism Before And After Increase In Stress Level

	Frequency	Percent	Valid Percent	Cumulative Percent
No Longer Optimistic Since Increase In Stress Level	32	35.6	35.6	35.6
Hardly Optimistic Even Before Increase In Stress Level	9	10.0	10.0	45.6
Always Been Optimistic	49	54.4	54.4	100.0
Total	90	100	100	