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IMMEDIATE OUTCOMES FOR TERTIARY STUDENTS
OF DEALING WITH STRESSFUL SITUATIONS:
INTERPERSONAL CONFLICT OR AN EXAM

Marie Taylor

sub-thesis submitted in partial fulfilment
of the degree of Master of Clinical Psychology
at the Australian National University

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Marie Taylor

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Marie Taylor

ABSTRACT

The relationships between coping strategies and both mood outcomes and a measure of the quality of the outcome of problem situations were explored in a study of 115 students enrolled in tertiary education. Subjects completed one of two questionnaires dealing with their experience earlier that day of either an exam or conflict with another person. Different coping strategies were adopted depending on the situation. Hierarchical regression analyses indicated that heightened negative mood was most likely in older students who faced many daily hassles and who used escape-avoidance behaviours to deal with their particular problem situation. Increased positive mood was predicted by greater use of positive reappraisal and distancing strategies. Coping efforts made no difference to judgments about the quality of the outcome of the problem situation. Correlational data indicated that coping strategies showed both generality and specificity in their relationships with different types of outcomes. The use of some coping strategies was related to both worse negative mood and judgments that the problem situation seemed worse, whereas the use of other strategies was related to just one type of outcome.

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1. Introduction

Dealing effectively with challenging and threatening situations seems to be vital to optimal human functioning throughout the life span. Analysis of such individual-environment interactions can be undertaken within the framework of a number of different theoretical perspectives, for example, a trait and individual approach (eg Moos, 1974), social learning theory (eg Bandura, 1977), a developmental theory (eg Erikson, 1959) or a broadly psychodynamic framework (eg Vaillant, 1977). The choice of approach influences the questions one asks, the variables one measures, and how the results are interpreted. In this study individual-environment transactions were considered within the framework of stress theory.

Even adopting this framework there are several different perspectives, each of which sees "stress" somewhat differently. After reviewing several possible approaches, the perspective chosen for this study was the transactional model of stress and coping proposed by Lazarus and his colleagues (eg Lazarus and Launier, 1978, Lazarus and Folkman, 1984, Lazarus, 1990).

Of particular interest in this study were the relationships between different coping strategies and different outcomes of an individual-environment interaction. An interaction may have outcomes for the individual in terms of psychological wellbeing, but also in terms of judgments about its quality - whether the situation is now better or worse than it was. These were the issues that were to be the focus of this study.

The Introduction to this thesis begins with a review of different theories of stress, discussing the transactional theory of stress and coping in most detail. Following on is a discussion of the structure of coping, a concept that is at the heart of this study. The literature relating coping strategies to various outcomes is reviewed, as are the possible factors that might influence coping choices. Methodology issues pertinent to research on coping are canvassed. Finally, the present study is introduced, its research objectives are outlined and the specific hypotheses it addresses are delineated.

Theoretical framework

Theories of Stress. Early conceptualisations envisaged stress as an output, and investigations concentrated on its physiological manifestations (eg Levi, 1967, Selye, 1946, 1974, 1976, Wolff, 1953). This view considered stress as "the state manifested by the specific syndrome which consists of all the non-specifically induced changes within a biological system" (p474, Selye, 1976). In other words, the presence of the stress state could be inferred from the appearance of the syndrome (Hinkle, 1973). In this view, the agent causing stress was the "stressor". Selye's approach to studying stress involved studying the effects of many different kinds of noxious stimuli (physical injury, heat, cold, demanding working conditions, or something foreign to the body) on the body. Stress was measured in terms of the physical and chemical changes characteristic of the General Adaptation Syndrome. For example, changes in the size of the adrenal glands or lymphatic tissues might be assessed, or the production of hormones such as adrenaline might be measured.

This approach was criticised on the grounds that the state of stress in an organism is probably not "qualitatively different from any other state of being alive" (p43, Hinkle, 1973), as the very acts of living and breathing involve constant adaptive changes in the body's metabolic processes.

Some other authors who also saw stress as an output state concentrated on the psychological level of measurement. Levi (1967) suggested asking subjects to describe the feelings induced by different kinds of stressor, as well as measuring the relevant physiological reactions. The Perceived Stress Scale of Cohen, Kamarck and Mermelstein (1983) consisted of items describing ways of being stressed and unable to manage demands. It yielded a total score for the level of stress that subjects had experienced in the previous month.

The life-events approach (Dohrenwend and Dohrenwend, 1974, Holmes and Rahe, 1967) draws on the engineering concepts of stress and strain. Stress is viewed as residing in the environment. It is defined as a force or a system of forces producing deformation or

strain in the structure that it is acting upon. All environmental demands are seen as forces requiring some adjustment, and the level of adjustment required is determined by averaging the assessments of a group of subjects. Empirical work has highlighted a number of limitations to this approach, for example, the assumption that adventitious events can be treated the same way as events towards which a person makes some contribution, the assumption that negative events and positive events are equivalent in their contribution to distress, and the individual's subjective interpretation of an event is not taken into account (eg Lazarus, 1990, Lazarus and Folkman, 1984, Lazarus and Launier, 1978, Thoits, 1983).

Another view of stress emphasises the characteristics of the person as important mediators of responses to environmental stimuli. The person and the environment are considered to be involved in a transaction. The transaction is considered to be a dynamic process, so that "both person and environment are involved in a reciprocal exchange that proceeds in time" (Laux and Weber, 1987, p196). This model of the person-environment relationship as a dynamic transaction, as an unfolding process, is the transactional theory of stress and coping proposed by Lazarus and his colleagues (eg Folkman, Lazarus, Dunkel-Schetter, DeLongis, and Gruen, 1986, Lazarus, 1990, Lazarus, DeLongis, Folkman, and Gruen, 1985, Lazarus and Folkman, 1984, 1987, Lazarus and Launier, 1978). It is now the dominant model used by researchers in this area of study, and was the one chosen for this study.

The transactional theory considers that psychological stress cannot be described in terms of the person or the environment alone, but must incorporate both elements (Lazarus and Launier, 1978). The stress relationship is one in which the demands of a situation tax or exceed the person's resources. The extent to which the situation is stressful depends on the meaning or significance of the encounter, the personal agendas (eg values, commitments, goals), and the personal resources (eg sense of mastery and control, social support) of the individual experiencing the situation, and competing environmental demands. To a resourceful person a strong demand may not be experienced as taxing, but to a person who

feels inadequate a much weaker demand may be viewed as very demanding.

In the transactional theory of stress and coping, the meaning attached to a particular encounter is the outcome of two processes of appraisal. In the primary appraisal process the individual evaluates whether or not he/she has anything at stake in the encounter. This might involve appraisals of the situation as irrelevant or benign, harmful, involving loss, threatening or challenging (Lazarus and Folkman, 1984).

While primary appraisal focuses on stakes, secondary appraisal focuses on coping resources and options. The person evaluates whether anything can be done to either overcome or prevent harm or improve his/her prospects for benefit. Lazarus and his colleagues consider this to be a complex process including appraisals of who is responsible for the situation, whether anything can be done to change the situation, whether the person has the resources to accomplish this, and whether the strategies deployed are likely to achieve the desired outcome (Lazarus, 1991, Lazarus and Folkman, 1984).

If the person/environment transaction is appraised as stressful then the person will choose appropriate coping strategies from his or her repertoire of coping resources. Coping strategies are defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus and Folkman, 1984, p141). There are three key aspects of coping in this definition. First, coping is seen as being context-bound, rather than primarily driven by stable personality characteristics. Second, coping strategies are defined by the criterion of effort, thus avoiding the pitfall of including just about anything an individual does in his or her transactions with the environment (Lazarus and Folkman, 1984). Third, coping is seen as a process, in which the consequences of coping efforts set the stage for reappraisals of the situation and subsequent coping responses.

The outcomes of coping are presumed to be manifested in both the short- and long-terms. In the short term, there may be physiological effects, changes in a person's mood, emotion or affect, and an immediate outcome to the person/ environment transaction. Most investigators have concentrated on affect (eg DeLongis et al, 1988, Felton, Revenson and Hinrichsen, 1984, Folkman and Lazarus, 1985) or physiological changes (eg Selye, 1976)

as outcomes, but there have been a few attempts to measure how the person-environment transaction turned out. This last concept has been variously measured as: change in problem severity (Menaghan, 1982, Folkman et al, 1986), self-rated coping efficacy (Aldwin and Revenson, 1987, Conway and Terry, 1992, Zautra and Wrabetz, 1991), and the number of lasting negative changes that have occurred in a person's life in response to a major stressor (Zautra and Wrabetz, 1991).

The immediate effects may be paralleled by outcomes in the long term in terms of a person's psychological wellbeing, somatic health and social functioning. Long term social functioning is not often ascertained in studies of stress and coping. The first two types of outcomes are commonly measured with psychological (eg the Langer 22-Item Screening Score in Aldwin and Revenson, 1987) or somatic symptom inventories (as in Billings and Moos, 1981).

The Structure of Coping. Researchers have made considerable efforts to understand the factor structure of coping, and several classifications have been suggested. In one of the earlier studies, Billings and Moos (1984) used inter-item analyses of a 32 item pool to determine 5 types of coping responses adopted by a sample of depressed adults. They were logical analysis, information seeking, problem solving, affective regulation, and emotional discharge.

Rejecting traditional psychometric scale construction techniques, Stone and Neale (1984) described 8 coping categories: distraction, situation redefinition, direct action, catharsis, acceptance, seeking social support, relaxation, and religion.

A commonly used inventory, the Ways of Coping Checklist (WOCC, Folkman and Lazarus, 1980) and its revised version (WOCC-R, Folkman and Lazarus, 1985) has been factor analysed in several studies. Factor analyses of the revised version (eg Aldwin and Revenson, 1987, Folkman and Lazarus, 1985, Folkman et al, 1986, Tobin, Holroyd, Reynolds, and Wigal, 1989) have commonly isolated 8 different types of coping strategies. For example, Aldwin and Revenson (1987) named 8 strategies as: escapism, exercised caution, instrumental action, minimisation, support mobilisation, self-blame, negotiation,

and seeking meaning. Folkman et al (1986) also suggested 8 coping scales: confrontation, distancing, self-control, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal.

In respect of a sample of undergraduates facing a mid-term exam, a factor analysis of the WOCC-R yielded 6 factors, with an additional 15 items that did not load clearly on any factor (Folkman and Lazarus, 1985). The researchers considered that one of the factors consisted of 3 groups of emotion-focused items, and so delineated 8 scales, named as: problem-focused coping, seeking social support, wishful thinking, distancing, emphasising the positive, self-blame, tension-reduction and self-isolation. The last six scales were considered to be forms of emotion-focused coping.

Summarising the results of these various analyses, Tobin et al (1989) noted that seven coping strategies often appeared in factor analyses of the WOCC and the WOCC-R. These strategies were: problem solving, wishful thinking, problem avoidance, social support, cognitive restructuring, self-criticism and emotional expression. Their factor analysis of their own modified version of the original WOCC (Lazarus and Folkman, 1980) identified these factors plus another factor that they named as Social Withdrawal.

The consistency with which some coping strategies appear was again demonstrated by factor analysis of another inventory, the COPE questionnaire of Carver, Scheier, and Weintraub (1989). Their 52 item questionnaire was originally designed to incorporate 13 separate coping strategies, reflecting specific theoretical arguments about the functional (and dysfunctional) foci of coping strategies, as well as acknowledging the results of previous empirical research. The 13 coping strategies named were: active coping, planning, suppression of competing activities, restraint coping, seeking social support for instrumental reasons, seeking social support for social reasons, positive reinterpretation and growth, acceptance, turning to religion, focus on and venting of emotions, denial, behavioural disengagement and mental disengagement. Factor analysis yielded 11 interpretable factors with the active coping and planning scales being combined, as well as the two seeking social scales. Of interest is that this data yielded independent coping strategies (eg suppression of competing activities, turning to religion) that may have been identified only by individual

items in WOCC-R data.

At higher levels of abstraction there is less agreement in the conceptualisation of the factor structure of coping.

On the basis of a principal components analysis of the original WOCC, Parkes (1984) described 3 uncorrelated higher-order coping factors: general coping, direct coping and suppression. General coping " represented a general tendency to use cognitive and behavioural coping strategies in response to stressful situations" (p658), whereas direct coping " represented rational, problem-focused attempts to manage the situation", but also included "negative loading items concerned with fantasy and wishful thinking". Suppression coping was " attempts at suppressing thoughts of the situation and inhibition of action".

Taking a more theoretical approach, Billings and Moos (1984, Moos and Billings, 1982) classified coping responses into three general categories according to their function. Appraisal-focused coping was thought to involve attempts to define and redefine the personal meaning of a situation, and comprised the coping response called logical analysis. Problem-focused coping involved attempts to modify or eliminate the sources of stress by dealing with the reality of the situation. It consisted of two coping responses: information seeking and problem solving. Finally, emotion-focused coping consisted of two coping responses: affective regulation and emotional discharge and was aimed at regulating emotions and maintaining affective equilibrium.

Lazarus and his colleagues also organised coping strategies according to their function. They suggested that coping has two functions. One function is to regulate stressful emotions, and the other is to alter the distressed person/environment relationship. Hence, coping strategies are regarded as either emotion-focused coping strategies or problem-focused coping strategies (eg Folkman et al, 1986).

Another view is that strategies can be organised into categories according to whether they involve approach or avoidance of the person/environment encounter (eg Maddi, 1980). Maddi (1986) factor analysed the Ways of Coping Checklist and, using Kobasa's hardiness

theory (Kobasa, 1979; Kobasa, Maddi and Kahn, 1982) identified two higher order factors that were named as transformational coping and regressive coping. Transformational coping was defined as "problem-specific behaviours that aim at resolving the stressful situation" and regressive coping was defined as attempts to "avoid or shrink from the situation initiated by the stressful event" (Kobasa, 1982, p709).

There is a suggestion that the two latter hypotheses may not be mutually exclusive. A factor analysis by Tobin et al (1989) of a modified version of the Ways of Coping Checklist identified eight primary factors, four secondary factors and two tertiary factors. The four secondary factors were named as problem engagement, problem disengagement, emotional engagement and emotional disengagement. Problem engagement was defined as efforts to manage, control or change the stressful circumstances, and comprised the specific strategies problem solving and cognitive restructuring. Efforts to manage the emotional responses to the encounter were considered to be emotional engagement strategies, and comprised emotional expression and seeking social support. The problem disengagement factor comprised problem avoidance and wishful thinking - strategies designed to disengage the person from the stressful encounter. Similarly, emotional disengagement strategies such as self-criticism and social withdrawal were considered to emotionally disengage the individual from the problem situation. The two tertiary factors were identified as engagement and disengagement. However, although these findings suggest that both hypotheses may be adopted to classify coping strategies, this idea needs more empirical support before it can be used with confidence in studies of stress and coping.

Research on coping by adolescents has also considered both primary and secondary factor structures of coping inventories. From their 6 year program of research on coping by Australian adolescents, Frydenberg and Lewis (1993) derived 18 coping strategies: seeking social support, focus on solving the problem, work hard and achieve, worry, investing in close friends, seek to belong, wishful thinking, not coping, tension reduction, social action, ignore the problem, self-blame, keep to self, seek spiritual support, focus on the positive, seek professional help, seek relaxing diversions, physical recreation.

Another coping scale that has been derived for use with adolescent populations is the Adolescent Coping Orientation for Problem Experiences (ACOPE), developed by two US researchers, Patterson and McCubbin (1987). Factor analysis of this scale identified 12 scales: engaging in demanding activity, developing self-reliance and optimism, developing social support, seeking diversions, solving family problems, seeking spiritual support, investing in close friendships, being humorous, seeking professional support, relaxing, ventilating feelings, and avoiding problems. These two adolescent inventories report more coping scales than does the WOCC-R, and some scales that are somewhat different from those identified from the COPE questionnaire of Carver and his colleagues (1989). These differences suggest that each of the existing coping inventories may fall somewhat short of describing the full range of important coping responses used by individuals when faced with stressful and problematic situations.

A second order factor analysis of the adolescent ACOPE scale identified two factors that have some similarities with the transformational coping and regressive coping factors described by Maddi (1986). The first factor, salutary effort, consisted of "more salutary, mature coping strategies" (p507, Jorgenson and Dusek, 1990) such as engaging in demanding activities, developing self-reliance and optimism, and developing social support. Such strategies were considered to be efforts to alter the stressful circumstances. The second factor, stress palliation, was found to be "characterised by less mature and salutary coping efforts" (p507, Jorgenson and Dusek, 1990) such as ventilating one's feelings, and minimising the problem. These strategies were felt to reflect efforts to reduce tension rather than change the situation.

Coping Strategies And Outcomes - A Literature Review

Over the last fifteen to twenty years researchers have devoted considerable attention to providing empirical data to illuminate the nature of the appraisal and coping processes. Of relevance to this study is the literature relating different aspects of coping to different outcomes. However, drawing general conclusions from this literature about which coping strategies are likely to be associated with better outcomes is difficult, as the nomenclature

given to coping strategies varies with nearly every study. In addition, early studies often did not include as full a range of possible strategies in their questionnaires as did later studies. Finally, in relation to inferences of underlying causality process, it must be noted that many of the studies are cross sectional.

Coping and Psychological Wellbeing One set of studies has asked respondents to describe their coping responses in relation to a self-named stressful episode that has occurred recently in their lives.

Billings and Moos (1981) had respondents indicate a recent personal crisis or stressful life event and answer questions about how they dealt with the event. Among men, coping efforts classified as active cognitive strategies, were inversely associated to anxiety while active behavioural and avoidance coping increased anxiety symptoms. Only avoidance coping tended to significantly increase symptoms of depression in men. Among women, active cognitive coping tended to decrease both depressive symptoms and anxiety.

In their longitudinal study of 291 older adults coping with a self-named stressful event that had occurred in the previous month, Aldwin and Revenson (1987) concluded that the group of strategies that they designated as emotion-focused coping had either no or negative main-effect impacts on mental wellbeing. Strategies such as escapism, seeking support and self-blame tended to be associated with increased symptoms, while minimisation and seeking meaning had no significant effect either way.

Use of instrumental action and negotiation had small but positive effects on mental wellbeing, but it depended on the individual's perceived coping efficacy - how well he or she thought that he or she had handled the problem situation. Frequent use of instrumental action as a coping strategy by individuals who felt they had handled the situation well was associated with low distress. However, infrequent use of this same strategy by individuals who thought that they handled the problem situation well predicted even lower distress. Perhaps instrumental action is a more potent means of coping when it is used less frequently. A more straight-forward interaction was found for the use of negotiation as a coping strategy. Lowest psychological distress was predicted by frequent use of this

strategy coupled with high self-evaluated coping efficacy (Aldwin and Revenson, 1987).

In their longitudinal study of ways of coping with stressful encounters, Folkman and Lazarus (1988) focused on the changes in four different emotions experienced by two groups of adults (a middle-aged group and an older group) at two stages of an encounter. Coping predicted changes in three of the emotions. Some forms of coping were associated with increases in positive emotions and other forms were associated with increases in negative emotions. Planful problem-solving was associated with an improved emotion state, while confrontive coping was associated with worsened emotion states in the middle-aged group. Also in that group, positive reappraisal was associated with improved emotion in relation to three of the emotions, although in the older age-group it was associated with an increase in distress rather than a decrease. Distancing oneself from the incident by refusing to think about it consistently contributed to a worsening of emotion. While these observed differences between the two groups' coping processes may reflect changes in coping adopted over the life cycle, they may also be attributed to differences in the methodology followed for each group and to differences in the types of stressful encounters reported (Folkman and Lazarus, 1988).

In studies that report on coping efforts in relation to a self-chosen stressful encounter, the type of problem situation is usually not classified or controlled, so the relationships derived must be viewed as general comments about effective coping in everyday life. On the other hand, studies that have examined coping with specific situations such as illness (eg Felton and Revenson, 1981), technological disaster (Baum, Fleming and Singer, 1983), marital problems (eg Menaghan, 1982), and occupational burnout (Shinn, Rosario, Morch and Chestnut, 1984) can provide information about the situational specificity of effective coping responses.

Adults taking on several different roles in different domains -parental , marital, economic, and occupational, may adopt different coping strategies for different domains. In the domain of marriage, and after controlling for the severity of its demands, Pearlin and Schooler (1978) found that emotional upset relating to the marriage was alleviated by

adopting a number of coping strategies. In decreasing order of potency, these strategies were: greater self-reliance (vs seeking advice), controlled reflection (vs emotional discharge), making positive comparisons, negotiation, self-assertion (vs passive forbearance) and eschewal of selective ignoring (that is, not ignoring the bad features of the marriage). Distress associated with parenting was alleviated by a somewhat different set of coping responses, including: positive comparisons, self-reliance, and eschewal of selective ignoring, as well as non-punitiveness (vs reliance on discipline).

Menaghan (1982) also looked at coping strategies used in the marital domain, considering their impact not only on psychological outcomes but also on the marital problems themselves. In line with Pearlin and Schooler's results, this study found that, when basic demographic factors were controlled, two coping efforts: selective ignoring and resignation increased ongoing distress and had little impact on problem severity. The use of negotiation as a coping strategy did not reduce ongoing feelings of distress but was associated with fewer marital problems four years later. Only optimistic comparisons were associated with both lower distress and fewer later problems. Menaghan concluded that there was an unfortunate spiral of marital experience over time - as problems mount, typical coping choices may actually exacerbate distress and increase later problems.

In the occupational arena, coping efforts may make very little difference to emotional upset (Pearlin and Schooler, 1978), or psychological symptoms, somatic symptoms, job satisfaction and job alienation (Shinn et al, 1984). The coping strategies that may have some slight effect in lowering distress include devaluing the intrinsic rewards of work and valuing the extrinsic rewards (pay and perks), making positive comparisons, and optimistic actions. Such strategies involve cognitive restructuring, and the manipulation of broad goals and values (Pearlin and Schooler, 1978). Getting social support from work colleagues may also contribute to lower levels of job dissatisfaction and job alienation (Shinn et al, 1984).

For coping with chronic illness, both problem-focused and cognition-focused strategies may be better. In their studies of people suffering from one of four chronic illnesses, Felton and her colleagues (Felton and Revenson, 1984, Felton et al, 1984) found

that both active efforts to seek information, and cognitive restructuring were related to a small improvement in positive affect for sufferers of chronic illness, while strategies such as wish-fulfilling fantasy, emotional expression and self-blame had deleterious consequences.

Other forms of illness may require somewhat different forms of coping. In breast cancer patients surveyed pre-surgery, post-surgery and at 3 months, 6 months and 12 months post-surgery, coping through denial reasonably consistently predicted higher distress, whereas acceptance and positive reframing strategies consistently predicted low distress. However, for this health problem, problem-focused efforts were not important at any stage (Carver, Pozo, Harris, Noriega, Scheier, Robinson et al, 1993).

People dealing with the aftermath of a technological disaster such as the Three Mile Island nuclear accident may require coping mechanisms that are quite specific to that situation (Baum et al, 1983). In this situation, frequent use of emotion-focused coping strategies was associated with fewer psychological symptoms than infrequent use of these strategies. In contrast, frequent use of strategies such as problem-focused coping was associated with high symptomatology, whereas infrequent use of these strategies was associated with fewer symptoms.

The ways that young people cope with specific situations have also been studied. In coping with a self-identified interpersonal and academic stressor, one study found that U.S. junior high school students who emphasised problem-focused strategies had few emotional and behavioral problems, whereas the frequent use of emotion-focused strategies was related to having many emotional and behavioral problems (Compas, Malcarne and Fondacarno, 1988).

Considering one academic stressor - the exam, more specifically, it seems that different ways of coping are more effective at different stages in the examination process. Looking at coping as a changing process, Folkman and Lazarus (1985) and Carver and Scheier(1994) examined coping and emotions in students when they were preparing for the exam, waiting for the results of the exam, and upon learning their exam marks. At all stages of the process, both emotion-focused and problem-focused coping strategies were used. The use of problem focused coping, seeking social support, (both studies), emphasising the

positive and self-isolation (Folkman and Lazarus only) tended to be highest before the exam, and lower afterwards. The use of distancing/mental disengagement was highest when waiting for the results of the exam (both studies).

The coping strategies of social support (both studies), wishful thinking (Folkman and Lazarus only), problem-focused coping and religious activity (Carver and Scheier only) significantly contributed to increases in the emotions of worry, fear and anxiety before the exam. In contrast, increased problem-focused coping (both studies), decreased self-isolation and increased wishful thinking (Folkman and Lazarus), and positive reframing of the situation (Carver and Scheier alone) contributed to positive feelings of confidence, hopefulness and eagerness before the exam.

After the exam, and after controlling for grades achieved, Folkman and Lazarus found that the strategies of wishful-thinking, and self-blame tended to exacerbate negative emotions such as anger, sadness, disappointment, guilt and disgust. In neither study was any coping strategy significantly associated with the positive emotions of mastery and happiness after the exam.

Adjusting to university life presents its own sets of demands. In a longitudinal study of 16-19 year olds making this transition, Aspinwall and Taylor (1992) found that the use of active coping strategies by new university students had direct positive effects on subsequent adjustment to university life, while using avoidance strategies predicted worse adjustment.

A few tentative conclusions about the different roles of specific strategies may be drawn from these data. First, strategies named as planful problem solving (Folkman and Lazarus, 1988), problem-focused coping (Carver and Scheier, 1994), active coping (Aspinwall and Taylor, 1992), instrumental action and negotiation (Aldwin and Revenson (1987), negotiation and self-assertion (Pearlin and Schooler, 1978), problem-focused coping (Mitchell, Cronkite and Moos, 1983, Folkman and Lazarus, 1985), and information seeking (Felton and Revenson, 1984) seem to be relatively consistently related to improved psychological wellbeing, although the effectiveness of their use may depend somewhat upon the situation. For example, in the marital domain, negotiation may not decrease ongoing marital distress (Menaghan, 1982), and it may not be a useful strategy in the more

impersonal domains (Pearlin and Schooler, 1978), or when coping with the aftermath of a disaster (Baum et al, 1983).

The role of a strategy involving reappraisal of the situation, identified in different studies as optimistic comparisons (Menaghan, 1982), positive reappraisal (Folkman and Lazarus, 1988), devaluing the importance of money and the intrinsic rewards of work, making positive comparisons (Pearlin and Schooler, 1978), active cognitive coping (Billings and Moos, 1981), positive reframing (Carver and Scheier, 1994), acceptance (Carver et al, 1993), and seeking meaning (Aldwin and Revenson, 1987) is less clear. In the studies that have included items that seem to be assessing this strategy it has been shown to have a negative, a positive and no association with psychological wellbeing.

Strategies that involve the management of one's emotional response to the stressful encounter show relatively consistent effects. Seeking support from others seems to be associated with higher distress in relation to both marriage and parenting (Pearlin and Schooler, 1978), poorer mental wellbeing in relation to a self-named stressful event (Aldwin and Revenson, 1987), and negative emotions when preparing for an exam (Folkman and Lazarus, 1985, Carver and Scheier, 1994). (On the other hand, receiving social support, from work colleagues for example, may ameliorate distress (Shinn et al, 1984).)

Strategies such as wish-fulfilling fantasy (Felton and Revenson, 1984), wishful thinking (Folkman and Lazarus, 1985), escapism and self blame (Aldwin and Revenson, 1987), avoidance coping (Aspinwall and Taylor, 1992), denial (Carver et al, 1993), selective ignoring of marital difficulties and parenting difficulties (Pearlin and Schooler, 1978), helpless resignation to and selective ignoring of marital difficulties (Menaghan, 1982), that may be aimed at disengaging the individual from the problem situation have generally had negative effects on psychological wellbeing. However, in dealing with problems in the less personal, occupational domain, selective ignoring may have more positive value (Pearlin and Schooler, 1978).

Coping and Encounter Outcomes. The transactional theory of stress and coping has always viewed coping as having a dual focus - to manage negative emotions and also to

make changes to the stressful person/environment encounter (eg Folkman and Lazarus, 1980, Folkman et al, 1986). However, much of the empirical literature has concentrated on the relationships between coping behaviour and a single outcome measure - psychological distress/ wellbeing, and the question of how the problem situation has turned out in relation to the coping strategies adopted has been less well studied. The following reviews the published studies relevant to this issue.

Folkman et al (1986) asked married couples how they coped stressful encounters and whether the encounter outcome was satisfactory or not. Satisfactory outcomes (those that were unresolved but improved, or resolved to a subject's satisfaction) were characterised by significantly higher levels of planful problem solving and positive reappraisal. In contrast, unsatisfactory outcomes (those that were unresolved and worse, unchanged, or resolved but not to a subject's satisfaction) were characterised by higher levels of confrontive coping and distancing.

Other studies have asked subjects to evaluate more generally their perceptions of the effectiveness of different coping strategies. For example, Irion and Blanchard-Fields (1987) found positive correlations between the use of and perceived effectiveness of: positive reappraisal, altruism, seeking support, and distancing in subjects grouped into four different age ranges. Such correlations were not found between the use of and perceived effectiveness of strategies such as hostile reaction and escape-avoidance, except in middle-aged adults. There were also significant correlations between the use of, and perceived effectiveness of strategies identified as planful problem-solving and self-control for the older age groups.

McCrae and Costa (1986) asked their subjects to rank 27 coping mechanisms in terms of their perceived effectiveness for either problem-solving or distress reduction. The seven mechanisms considered to be the most effective for problem-solving were (in order): faith, seeking help, rational action, self-adaptation, expression of feelings, restraint and humour. In terms of effectiveness for reducing distress, the subjects rated faith, drawing strength from adversity, seeking help, substitution, humour, expression of feelings and rational action as the top seven strategies.

Other attempts to measure the outcome of a person/environment transaction have involved asking respondents to evaluate their own coping efficacy, or, in other words, how they thought they handled the problem (Aldwin and Revenson, 1987, Conway and Terry, 1992). In the first study, coping efficacy was considered as a mediating variable, having predictive power with the outcome variable - psychological wellbeing. (High) perceived coping efficacy correlated negatively with the coping strategies named as escapism, self-blame and negotiation, but positively with instrumental action. In the Conway and Terry (1992) study, a four item scale assessed how satisfied subjects were with their efforts to deal with the situation. (Low) perceived coping efficacy was significantly negatively correlated with problem-focused coping, and positively correlated with self-denigration

Another means to assess how the stressful person/environment transaction has turned out is by measuring the lasting negative that have occurred in a person's life in response to a major stressor (Zautra and Wrabetz, 1991). Although these authors did not provide data about the relationships between different coping efforts and lasting negative changes, measuring this variable could provide inferential evidence of how successful a person is in adapting to a stressful event.

Factors Influencing Coping - A Literature Review

The approach of Lazarus and his colleagues (eg Lazarus et al, 1985) emphasises that coping must be considered in context. Socio-demographic, personality, environmental and appraisal factors may influence the process of coping with a particular person/environment encounter. The empirical evidence for the influence of these factors on coping is reviewed as follows:

Socio-demographic factors. Certain socio-demographic variables may influence the use of coping strategies. First, sex differences in choices of coping strategy have been identified in both adult and adolescent populations. In respect of an academic stressor, there is evidence that girls attending US junior high schools use more emotion-focused strategies than boys, although there may be no differences in respect of social stressors (Compas et al,

1988). Differences have also been found in respect of coping behaviours that US junior and senior high school students use whenever they face difficulties or feel tense. Patterson and McCubbin (1987) found that girls tended to be more involved in developing social support, solving family problems, investing in close friends, and developing self reliance. Boys relied more on humour as a coping pattern. There were no differences between the sexes in their use of strategies such as ventilating feelings, avoidance, and engaging in demanding activities and relaxing. From their analysis of responses by Australian adolescents to individual items on the WOCC-R (Folkman and Lazarus, 1985), Frydenberg and Lewis (1991) concluded that females were "generally more fatalistic and resigned to circumstance" (p126), while males were "more aggressive and private" (p126). When these authors examined coping using open-ended questions, they found that girls tended to talk to friends more than boys did.

Sex differences in the use of coping behaviours have also been observed in adults. In a representative community sample of adult men and women Billings and Moos (1981) found that men reported less frequent use of coping strategies classified as active-behavioural, avoidance and emotion-focused coping than did women. Folkman and Lazarus (1980) found sex differences only in the use of problem-focused coping strategies, and the difference was observed in only some situations. Men seemed to use these strategies more than did women in the work situation, and also in situations that were perceived as either requiring acceptance or more information. In contrast, Ptacek, Smith and Zanas (1992) observed more stereotypical coping behaviour in their sample of university students aged 18 to 46 years. Men tended to use more problem-focused coping, while women tended to engage in more support seeking and emotion-focused coping.

Age differences in the types of coping strategies adopted have also been observed in both adults (eg Aldwin, 1991, Folkman and Lazarus, 1988, Folkman, Lazarus, Pimley, and Novacek, 1987, Irion and Blanchard-Fields, 1987) and adolescents (eg Compas et al, 1988, Frydenberg and Lewis, 1991) although these differences may be partly attributed to differences in the types of person/environment encounters typically dealt with by different age groups.

Third, the level of education received may be associated with differences in the types of coping strategies chosen. There is evidence that avoidance coping is negatively associated with education, while the use of problem-focused coping is positively associated with it (Billings and Moos, 1981, Holahan and Moos, 1987).

Socioeconomic status may also relate to the type of coping strategies adopted. Income has been found to be positively associated with the use of active cognitive coping, problem-focused coping and active behavioural coping (Billings and Moos, 1981, Holahan and Moos, 1987), and negatively associated with the use of avoidance coping (Holahan and Moos, 1987). In respect of marital and occupational problems, high income adults tend to make little use of selective ignoring as a coping strategy. In Australian adolescents, the socioeconomic status of one's parents has been associated with differences in coping strategies chosen (Frydenberg and Lewis, 1991).

Personality Factors. In previous years coping was seen by psychodynamic theorists (eg Vaillant, 1977) as reflecting stable personality traits. In contrast, Lazarus's framework views coping as more situationally determined, although it is acknowledged that coping efforts made by individuals may be influenced by factors in their psychological structure (eg Lazarus, 1970). These factors could be considered as psychological resources - "the personality characteristics that people draw upon to help them withstand threats posed by events and objects in their environment" (Pearlin and Schooler, 1978, p5).

Many personality variables have been studied in relation to coping, including: need for approval (Lazarus, 1970), self-esteem and confidence (eg Carver, Scheier and Weintraub, 1989, Cronkite and Moos, 1984, Fleishman, 1984, Holahan and Moos, 1987), mastery (eg Fleishman, 1984), self-denial (eg Fleishman, 1984), locus of control (eg Parkes, 1984, Aspinwall and Taylor, 1992), optimism (eg Aspinwall and Taylor, 1992, Carver et al, 1993, Scheier and Carver, 1987, Scheier, Carver and Weintraub, 1986), self-focus (Wood, Saltzberg, Neale, Stone and Rachmiel, 1990), and neuroticism and extroversion (eg McCrae and Costa, 1986).

A high degree of self-confidence or self-esteem has been shown to be positively

associated with coping strategies classified as active-cognitive and active-behavioural types and negatively associated with avoidance coping (Aspinwall and Taylor, 1992, Carver et al, 1989, Cronkite and Moos, 1984, Holahan and Moos, 1987). In the domain of marriage, partners high in mastery tend to make minimal use of passive acceptance and selective ignoring (Fleishman, 1984), and in coping with children, parents high in mastery tend to make more positive comparisons and minimal use of escape-avoidance strategies involving resignation to the situation and selective ignoring of its negative aspects (Fleishman, 1984).

Feelings of a high degree of personal control in a situation may be linked with a wider repertoire of coping strategies (Parkes, 1984), and better use of successful coping strategies (Aspinwall and Taylor, 1992).

There is evidence that optimists and pessimists differ in the ways that they cope with self-named stressful situations (Scheier et al, 1986), work-related stress (Strutton and Lumpkin, 1992), adjustment to university life (Aspinwall and Taylor, 1992), and breast cancer. In breast cancer patients initial optimism was related to subsequent efforts in positive reframing, acceptance, and use of humour, with minimal use of denial and disengagement strategies (Carver et al, 1993). In salespeople dealing with work-related stress, optimism related to problem-focused means of coping, while pessimism related more to emotion-focused coping (Strutton and Lumpkin, 1992). Similarly, optimistic students used more active coping strategies and less avoidance coping during the first few weeks of university than did less optimistic students (Aspinwall and Taylor, 1992).

The personality dimensions of neuroticism and extroversion may also influence coping. McCrae and Costa (1986) found associations between neuroticism and increased use of hostile reaction, escapist fantasy, self-blame, sedation, withdrawal, wishful thinking, passivity and indecisiveness. Similarly, a high degree of self-focus, or attention to one's own thoughts and feelings (Wood et al, 1990, p 1027) has been found to be related to a slight tendency to ruminate about one's problems and to be less likely to take direct action. On the other hand, extroversion has been found to occur with the use of rational action, positive thinking, substitution and restraint as coping strategies (McCrae and Costa, 1986).

The literature on the associations between personality traits and coping strategies

considerably broadened the range of possible factors that could have been included in the present study. As no one personality trait or dimension stood out as being particularly influential in relation to coping strategy choices, personality influences as a whole were omitted as concepts of interest.

The Type of Problem Situation. As discussed previously, there is evidence that in different types of situations (eg technological disaster, chronic illness, marriage and occupational stress) different types of coping strategies tend to promote psychological wellbeing.

Other supporting evidence comes from studies that have examined peoples' choices of coping strategy across life's different domains. Folkman and Lazarus (1980) analysed the ways that 100 men and women coped with the stress of daily life over one year. The context of a particular stressful episode, whether it was work-related, family-related or health-related was significantly associated with different types of coping. Work was associated with higher levels of problem-focused coping, whereas coping with health problems was associated with higher levels of emotion-focused coping.

Adopting a more specific classification of life's different domains, Billings and Moos (1981) categorised respondents' self-chosen life events into one of six types: illness (of self or other family member), death in family, economic (eg loss of job, debts, substantial drop in income), children (eg children had trouble with teachers in school), other interpersonal events, and other non-interpersonal events. Using the Lazarus and Folkman (1980) classification of coping strategies into problem- or emotion-focused types they found that, in contrast to Folkman and Lazarus, problem-focused coping was used most in dealing with illness, other interpersonal events, and economic events, and least in dealing with death, while emotion-focused coping was used particularly with other non-interpersonal events, and least often with illness, death and economic problems.

The differences between the two studies in coping with health problems may, in part, be attributed to differences in both the classification systems adopted, and the types of problems actually reported by participants in the studies. These considerations suggest that

researchers may need to specify the problem situation being dealt with as clearly as possible.

Adverse Daily Events. There is also some evidence that the level of adverse daily events, or daily hassles can influence coping choices. For example, the experience of many marital problems has been linked to an emphasis on selectively ignoring one's discontents in the marriage, and resignation to the situation. On the other hand, having fewer problems has been linked to greater use of negotiation and optimistic comparisons (Menaghan, 1982).

In a longitudinal study, Lu (1991) found that people who experienced many daily hassles at Time 1 tended to use fewer direct ways of coping two months later when encountering these same hassles, than did people who initially experienced a low level of hassles at Time 1.

Appraised Dimensions of the Situation. The concept of an appraisal process influencing coping choices is central to the transactional theory of stress and coping. There is support for this process in the research that shows that certain appraised dimensions of the person/environment encounter have associations with the types of coping strategies chosen to deal with a situation. These include the dimensions of loss, threat and challenge (eg Irion and Blanchard-Fields, 1987; McCrae, 1984), the perceived controllability/changeability of a situation (Felton and Revenson, 1984; Lazarus and Folkman, 1980; Folkman and Lazarus, 1988; Folkman et al, 1986), and the perceived responsibility for the situation's occurrence and its management (Aldwin, 1991). The empirical evidence is considered as follows:

When subjects were asked to select from a questionnaire the coping responses that they had ever used to deal with 3 different problems that were appraised as either a loss, threat or challenge event, analysis of the use of 28 coping mechanisms showed that the appraisals were associated with particular types of coping mechanisms (McCrae, 1984). For example, faith, fatalism, and expression of feelings were used especially when subjects had experienced a loss. Wishful thinking, faith, and fatalism were used in the face of a threat, and rational action, perseverance, positive thinking, intellectual denial, restraint, self-adaptation, drawing strength from adversity and humour were used to deal with challenges.

However, the specific context of the loss, threat or challenge may also be important. Subjects in another study (Folkman et al, 1986) reported using more confrontive coping, self-control and escape-avoidance, accepting more responsibility, and using less social support when faced with situations that were very threatening to their own self-esteem. When the threat was to the well-being of a loved one a slightly different pattern of coping choices emerged. In this situation, the emphasis was on only confrontive and escape-avoidance strategies. Threats to one's physical wellbeing were associated with an increase in seeking social support and escape-avoidance as coping strategies.

In respect of the appraised changeability or controllability of the situation, there is evidence that in situations appraised as more changeable, problem-focused coping strategies such as planful problem-solving, confrontive coping and positive reappraisal tend to be used more frequently, while emotion-focused strategies such as distancing and escape-avoidance are used more in encounters appraised as needing acceptance (Folkman and Lazarus, 1980, Folkman et al, 1986, Forsythe and Compas, 1987). A similar pattern has also been observed in adolescents (Compas et al 1988). Both boys and girls considered that they had more control over academic stressors than social stressors, and that they would use problem-focused efforts more often in relation to academic stressors than social stressors. There were no significant differences in the use of emotion-focused alternatives between the two situations. However, not all studies have demonstrated these relationships. Conway and Terry (1992) found no associations between appraised controllability and the use of any coping strategy.

It also seems that appraisals of one's responsibility in relation to a problem may influence coping choices. People who feel more responsibility for the occurrence and management of a self-named stressful episode may be more likely to use instrumental action rather than escapism as a coping strategy (Aldwin, 1991).

Methodology Issues.

There are a number of methodology issues that face researchers investigating stress and coping structures and processes. In addition to the usual issues relating to defining and

measuring the concepts of interest in a valid and reliable way, obtaining a representative sample of subjects, and generalising the results, stress and coping researchers face particular problems in choosing a design that facilitates valid conclusions about the presence and direction of cause and effect, and choosing means to gather the data. These issues are discussed as follows.

Choice of Research Design. It is very difficult to establish cause and effect relationships in research on stress, coping and psychological outcomes. It is usually not ethical to randomly assign human subjects to different conditions or treatments, so correlational methods are adopted. However, these methods make it difficult to determine the underlying causal mechanisms, and the direction in which causality might operate.

In the simplest case, a correlation may reflect an underlying process whereby the predictor variable causes a change in psychological wellbeing. However, the underlying process could well be the reverse, that is, psychological wellbeing influences the choice of coping strategies. Further, as Lazarus and his colleagues suggest (eg Folkman and Lazarus, 1984, 1985), the process could be bidirectional and dynamic, with feedback loops operating.

Cross sectional designs, although popular and easy to conduct, make it difficult to choose between these alternatives. A retrospective design, in which investigators take measurements of variables at previous times in the subject's life may more clearly establish cause and effect directions. However, conclusions based on this design may also be flawed if measurement of the predictor variable is contaminated by knowledge of the outcome variable (Brown, 1974). When subjects are asked about the level of a predictor variable, their reporting may be influenced by their and/or the investigator's knowledge of the outcome. They may have formed their own theories about the causes of outcome variables such as mood, disease and mental wellbeing, and complete questionnaires on the basis of these theories. This causal relationship may therefore contaminate conclusions about cause and effect drawn from retrospective designs.

To overcome the problem of direct contamination, prospective designs are

recommended (Brown, 1974). Investigators using this design firstly assess their subjects on factors considered likely to impact on the outcome variable. Further data on the factors of interest are collected on subsequent occasions. When the so-called predictor variable is found to occur before the so-called outcome variable, then the investigator can be more confident that cause and effect occurs in the way hypothesised. Using this design lessens the likelihood of direct contamination occurring.

However, a prospective design doesn't rule out the possibility that a correlation exists because of the operation of a third factor that is correlated with both variables (Brown, 1974). The predictor variable under study may be merely a marker for the causal mechanism, and it may not be possible to tell how close to the causal process the marker is (Kasl, 1985). For example, the correlation between a coping strategy variable and a psychological wellbeing variable may be determined by the operation of a personality trait such as mastery or hardiness. These traits could govern subjects' perceptions and experience of a particular situation, their choices of coping strategies, and also their psychological wellbeing. To reduce the effects of such personality traits, it is necessary to measure and control for their influence (Brown, 1974). Finally, it must be recalled that prospective designs are still correlational, and other research is required to further elucidate causal mechanisms.

For the present study a retrospective design was adopted. This may have helped promote subject compliance in completing the questionnaires, while it also allowed some tentative inferences about the direction of causality to be made.

Self-Report Measures. In research on stress and coping, researchers commonly obtain data from paper and pencil questionnaires. Self-report measures use both the subject's time and the investigator's resources efficiently. They are standardised and amenable to statistical analysis.

However, self-reported data has its limitations. A fundamental problem is that self-report measures do not measure the objective reality of the processes actually occurring. They only provide the investigator with information that the respondent is willing and able to

tell about him/herself (Wilde, 1972). Distortions of the true picture arise for many reasons. For example, subjects may wish to present themselves in a favourable light (Cattell, 1946; Combs and Soper, 1957, cited in Burns, 1979). Another possibility is that they may be unaware of what is truly happening - what their moods and emotions are, which events and situations in their lives are the ones that are distressing them, and also how they cope with those situations. Third, even in prospective research, subjects are asked to describe a situation retrospectively, and they may forget its salient aspects. Finally, an investigator's obvious interest in particular aspects of subjects' daily lives may alter their perceptions of those aspects.

On these grounds, self-reported data can be validly criticised. However, they are adopted by many researchers because the alternatives are largely unworkable. Observing individual's coping behaviours would be a daunting task, and would not provide data on cognitive and emotional aspects (Derogatis, 1982). As suggested by Lazarus and Folkman (1987), one approach might be to first generate stable findings from self-report data and follow this with corroborative data on observed behaviour and physiological reactions.

Self-report measures were adopted in this study.

Confounds of Concept and Content. In correlational research conceptual and measurement overlap between predictor and outcome variables can hinder conclusions about cause and effect (Contrada and Krantz, 1987).

The possibility of confounds of content was discussed exhaustively following the production of evidence by Dohrenwend, Dohrenwend, Dodson and Shrout (1984) that correlations between measures of psychological symptoms on the one hand and life events and daily hassles on the other (DeLongis, Coyne, Dakof, Folkman and Lazarus, 1982, Holmes and Rahe, 1967, Lin, Dean and Ensel, 1981) were merely spurious. In rebuttal Lazarus, DeLongis, Folkman and Gruen (1985) argued that obvious shared items had already been removed. They also demonstrated that the items in the Hassles Scale that were most likely to be symptomatic of psychopathology were not significantly more highly correlated with psychological symptoms than items that were not rated so highly. Hence,

at the empirical level, it may not be a simple matter to determine whether independent and dependent measures may be confounded through an overlap of items, although obvious content confounds can be avoided by removing shared items.

The other matter, of conceptual overlap between independent and dependent variables has also come under scrutiny. Dohrenwend et al (1984) strongly suggest that to guard against conceptual and item overlap, measures of independent variables such as life events and daily hassles must focus on environmental aspects. They should be purified of all aspects of psychological responses, including any distress and appraisal components. On the other hand, Lazarus et al (1985) consider that "no environmental event can be identified as a stressor independently of its appraisal by the person." (p776), and therefore regard some conceptual confounding as inevitable. In their view of the person-environment transaction, the person produces the appraisal of the transaction as stressful or not, and therefore it is not useful to purify the independent variable of person variables such as the appraisal process.

Further, it is argued that psychological response variables, including distress and appraisal characteristics can be a cause, as well as an effect of environmental happenings. The recognition of such circularity is a core feature of Lazarus's transactional model of stress and coping. An individual's state of mood may precipitate an encounter with the environment and influence its course and outcome, thus contributing to subsequent mood. Hence, it is argued, efforts to measure the outcome variable should be made at the same time as the predictor variables are measured.

Temporal Aspects of Variable Measurement

Of importance in any study is the time that the outcome variables are measured in relation to the predictor variables. The object is to demonstrate as powerfully as possible the process of interest, and hence the outcome measures should be taken at the time that the predictors are making their maximum impact. Timing is also important for demonstration of the underlying process in the observed correlations instead of a merely spurious relationship (Leventhal and Tomarken, 1987).

Theory may not provide any guidance in relation to this issue, and so researchers must rely on empirical data as a basis for decision making (Lazarus, 1990). Of relevance to this study, the literature does provide some data on the persistence of the effects of daily hassles in relation to subsequent mood, but there is a paucity of such data illuminating the temporal aspects of the relationships between coping and subsequent mood. In other words, it is not known how long it takes for the effects of coping to manifest themselves in changes in outcome variables of interest.

The data on hassles and same-day and next-day mood presents a complicated picture. There is consistent evidence that adverse daily events are associated with poor same-day mood (eg Caspi, Bolger and Eckenrode, 1987, DeLongis et al, 1988, Marco and Suls, 1993). However, in the longer term there is evidence that next-day mood is not affected (Marco and Suls, 1993, Rehm, 1978), that it may improve (DeLongis et al, 1988) and that it may worsen, but this tends to be among people with low levels of resources or who are enduring high levels of chronic stressors (Caspi et al, 1987). From this data it could be tentatively inferred that the benefits of coping with a specific situation for improved mood/emotion may take time to work through, and that ideally, a researcher would take repeated measures to capture the changes in the outcomes of coping as they occur. Probably there are individual differences in the time that coping takes to work (Lazarus, 1990).

While acknowledging these valid points, the present study favoured one-off same-day measurement to encourage subject compliance.

The Present Study

Overview. In terms of the framework for studying stress and coping proposed by Lazarus and his colleagues, the focus of this study was on the relationship between coping strategies and short-term outcomes. Of the three different levels of human functioning, (the physiological, psychological and social levels), this study was interested in the ideas and empirical data relating coping with a particular person/environment encounter to changes in mood/emotion and the quality of that encounter outcome. The study was also interested in coping strategy choices in relation to these particular outcomes.

In the literature reviewed there seems to be some consistency in associations between certain coping strategies and particular psychological outcomes. These associations have been observed in both adult and adolescent populations, and particularly in respect of person/environment encounters in the more personal domains of experience. Problem solving efforts seem to be associated with favourable outcomes, while distancing oneself from the problem, wishful thinking and seeking social support are generally associated with less than favourable outcomes. The present study hoped to produce results consistent with this data. In respect of strategies involving a cognitive appraisal of the situation, the data is less clear, and the present study made no prediction about the relationship that would emerge.

Very few studies have looked at the relationship between coping and quality of encounter outcome, and a major goal of the present study was to illuminate this relationship further. A tentative hypothesis was that the relationship between coping strategies and a quality of outcome measure would be similar to that between coping and psychological wellbeing.

The review of the literature showed that in a particular person/environment transaction, coping strategy choice may be influenced by various demographic and environmental factors, as well as the way that the transaction is appraised. It was considered important to control the influences of these variables in order to discern the unique contribution that different coping strategies made to each outcome of interest. This study exerted both experimental and statistical controls on several factors that were considered most likely to influence coping strategy choice.

First, it investigated coping in a population that was relatively homogeneous in terms of age, education, and socio-economic status. Specifically, it investigated coping in undergraduate students enrolled in tertiary education institutes in a small city in Australia. Second, the possible influences of the sex and age of the individual, the daily hassles faced, the type of problem situation encountered, and the appraised changeability/controllability of the situation on coping strategy choices were taken into account.

Hypotheses. The specific hypotheses were as follows:

H1: That differences in coping strategy choices would emerge, depending on the person's age and sex, the situation encountered, the level of daily hassles faced, and the appraised controllability of the situation.

H2: That, after controlling for the socio-demographic, environmental and appraisal factors, problem-solving coping efforts would make a significant and positive contribution to psychological wellbeing, while strategies aimed at avoiding the problem, and seeking social support would tend to detract from wellbeing. In the case of cognitive appraisal strategies, the study made no specific predictions.

H3: Tentatively, that coping efforts would make a difference to perceptions of the quality of the outcome of each problem situation in the same way that they contributed to psychological wellbeing.

2. Method

Subjects

The participants were 115 students in tertiary education in Canberra. There were 47 subjects attending the Canberra Institute of Technology (CIT), and 68 subjects who were first and third year psychology students at the Australian National University (ANU). The first year psychology students who participated received course credit, but other students received no benefit from participating.

Students were recruited by appealing for volunteers during class time, and through advertising on notice boards. Volunteers were sought from two ANU psychology classes, and eighteen CIT classes. Recruiting was carried out during the period August to October 1993. Four hundred and two questionnaires were distributed, and of these 118 were returned, giving a participation rate of 29 percent. Of the questionnaires returned 3 were discarded because they contained too few responses.

The CIT students were 18 men and 29 women, while the ANU students were 19 men and 49 women. There were no significant differences in the sex composition of the students at the two institutions ($t=1.15$, $p=.254$).

The average age of the CIT students was 29.85 years, and the average age of the ANU students was 21.16 years. These ages were significantly different ($t=4.62$, $p<.000$). The average age overall was 24.67 years, ($SD = 9.6$, $n=114$), with the age distribution showing a skew in favour of younger students. Ages ranged from 18 to 60 years.

Procedure

Participants received questionnaires in class, or obtained them directly from the investigator, returning them 2 to 3 weeks later, when they had completed them. Each questionnaire took about 40 minutes to complete, and mainly required responses to fixed choice items. (See Appendices 1 and 2 for copies of the questionnaires.)

Participants were randomly assigned to one of two questionnaires, each dealing with a different problem situation. The two situations chosen were required to produce measurable emotion or mood change, and be commonly experienced by students. They

were chosen on the basis of the investigator's own experiences as a student, upon the Stressful Situations Questionnaire (Hodges and Felling, 1970), upon the Microstress Events Inventory (Ham and Larson, 1990), and upon a previous study of coping with a college exam (Folkman and Lazarus, 1985).

Participants assigned to the first group were asked to provide data in relation to some interpersonal conflict that occurred one day in the 2 to 3 weeks following receipt of the questionnaires. They were asked to complete the questionnaires on the evening of the day on which the incident occurred.

Participants in the second group provided data about what they did in relation to a test or exam that they sat one day in the 2 to 3 weeks following receipt of the questionnaires. They were asked to fill out the questionnaires on the evening of the day of the exam or test.

The procedures adopted met the guidelines of the National Health and Medical Research Council and those of the Australian Psychological Society for the ethical treatment of subjects. Each participant received a report summarising the results of the study.

Measures. (Refer to Appendices 1 and 2 for copies of the two questionnaires.)

Description of a problem situation. In both conditions, subjects wrote a few sentences outlining the nature of their assigned problem situation that day. Participants in the first group were asked to "Write about a conflict or problem that you had with someone today. It could be with a friend, a casual acquaintance, a lover, a member of your family, a lecturer or tutor, an employer, or bank or shop staff. This situation should be one that taxed or made demands on you in some way. Outline briefly the circumstances of the incident - where it was, who was there, and what happened."

Participants in the second group were asked to "Write about your experiences in relation to an exam or test that you sat today. Outline briefly what you did today in relation to this exam or test - where you were, who else was there, and what happened."

A check of the responses to this section showed that all of the problems described were relevant to this study.

Controllability. Subjects were requested to rate, on a seven point scale, "how much you think that the (situation you experienced) today could have been changed in some way. Is this situation one that you could do something about?" On the scale 1 = "this situation couldn't be changed at all", and 7 = "this situation could be changed totally".

Daily Hassles. Participants completed a slightly modified version of the hassles section of the revised version of the Combined Hassles and Uplifts Scale, a 53 item scale measuring both adverse hassles and benign daily events (DeLongis et al, 1988).

This scale provides information on the number and severity of daily hassles. Subjects rate, on a four point Likert scale, the degree of hassle each event or ongoing condition has caused them that day, where 0 = "none, not applicable", and 3 = " a great deal". This scale has been used in a number of studies to measure ongoing or daily stressors as perceived by individuals, and evidence of its validity in this role comes from those studies. For example, having many hassles in one day has been associated with poorer mood in 85 percent of people, and increased health problems in 61 percent of people (DeLongis et al, 1988).

In the present study, nine of the items of the Hassles Scale were modified to reflect more closely the experience of students rather than people in the work force. These modifications are shown in Table 1. In general, references to hassles in a job were replaced by hassles relating to studying.

Table 1.

Modified Items in the Hassles Scale

Item No.	Original item	Item in this study
4	your spouse	your spouse, boyfriend, girlfriend
11	fellow workers	your fellow students
12	clients, customers, patients etc	fellow workers, your boss or employer
13	your supervisor or employer	lecturers, teachers or tutors
14	the nature of your work	the nature of your study
15	your work load	your study load
17	meeting deadlines or goals on the job	meeting study deadlines
19	enough money for education	enough money for your study
44	car maintenance	car, motorbike or bicycle maintenance

Coping Strategies. Participants completed the revised Ways of Coping Checklist (WOCC-R) (Lazarus and Folkman, 1984), a 66 item self-report measure of cognitive and behavioural responses made by people to manage stressful demands. They were asked to indicate the extent to which they had used each response that day when dealing with their assigned problem situation, thus attempting to address concerns about the usually vague specification of the coping period (Stone, Greenberg, Kennedy-Moore & Newman, 1991, Stone and Neale, 1984).

In the WOCC-R, items are designed to reflect "coping" as defined in the transactional theory of stress and coping (eg Lazarus, 1991). The scale uses a 4 point Likert Scale to grade responses, with 0 denoting a strategy "not used", and 3 denoting a strategy "used a great deal" (Lazarus and Folkman, 1984).

In the present study, measures of different ways of coping were based on published factor analyses of data obtained from each spouse of seventy-five couples at monthly intervals over five months about their coping efforts in relation to a stressful incident that occurred in each month (Folkman et al, 1986). Using alpha and principal factoring with oblique rotation, the authors derived 8 factors which they identified as: confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem-solving and positive reappraisal. (For further details, refer to Folkman et al, 1986.)

Confrontive coping describes aggressive efforts to change the situation, whereas planful problem-solving describes more deliberate attempts to make changes. Distancing involves efforts to detach oneself from the situation or make light of it. The strategy of positive reappraisal of the situation describes efforts to create positive meaning by focusing on personal growth or religious themes. The scale identified as self-control summarises efforts to regulate and control one's thoughts and actions. Seeking social support is more oriented to efforts to get information from others or to get tangible help or emotional support from them. Another scale identified as accepting responsibility includes acknowledgment of one's own responsibilities in the situation. Finally, escape-avoidance describes thinking and behaviours that avoid accepting the reality of the situation.

The internal consistency ratings obtained by Folkman et al (1986) for these scales ranged from 0.61 for the distancing scale, to 0.79 for the positive reappraisal scale. Intercorrelations among the scales ranged from 0.01 between confrontive coping and distancing, and 0.39 between problem-solving and positive reappraisal. (For further information refer to Table 4 where the inter-item consistencies obtained by Folkman et al (1986) are compared with those obtained in this study.)

Evidence relating to the validity of the scales comes from factor analyses of WOCOR data obtained from the general population (Aldwin and Revenson, 1987), students (Folkman and Lazarus, 1985) and middle-aged and older adults (Folkman et al, 1986) where generally similar factors have been obtained. The inter-item consistencies for the factors are rarely below .65, and intercorrelations among the factors are usually modest, with

correlations rarely above 0.5. In addition the scales describing coping strategies have been found to be associated with various psychological and health outcomes in broadly consistent ways (eg Aldwin and Revenson, 1987, Folkman and Lazarus, 1985,1988).

Mood/Emotion. Rather than measuring psychological symptoms, which are relatively stable over time, a measure of the moods or emotions experienced by the participants was taken. (This study uses the terms mood and emotion inter-changeably as does Watson and Tellegen (1985). Any conceptual differences between the two terms, as suggested by , for example, Nowlis (1965), and Isen (1984) are ignored.) In order to isolate, as much as possible, the process of coping with the particular person/environment transaction being studied, subjects were asked to focus on their present mood/emotion in relation to that incident or situation.

To assess respondents' mood states, the Profile of Mood States (McNair, Lorr and Droppleman, 1971) was adopted. This is a 65 adjective checklist with each item completed on a five point scale ranging from "not at all" to "extremely". From various factor analyses and oblique rotation of the identified factors, McNair et al (1971) derived six scales representing six mood states: tension-anxiety, depression-dejection, confusion-bewilderment, anger-hostility, vigour-activity and fatigue-inertia. A seventh factor, described as friendliness was also identified in one of their analyses (McNair et al, 1971, Study 3) but was subsequently excluded because it was considered to be inseparable from the vigour-activity factor and too weak for valid scoring. However, this scale, and its component items was included in the present study to provide a better balance between positive and negative outcome states.

McNair et al (1971) presented data pertinent to an assessment of the reliability and validity of their scale. Inter-item consistency data for samples of male and female psychiatric outpatients were satisfactory, ranging from .84 and .87 for the confusion-bewilderment factor to .95 and .95 for the depression-dejection factor. Test-retest reliability data was also presented, showing a moderate stability in mood ratings over time. Evidence of the construct and predictive validity of the POMS included reports on its use in studies of

short term psychotherapy, outpatient drug trials, and emotion-inducing conditions. Data on its concurrent validity with other similar scales was also given.

Comparative Problem Severity. An assessment of the respondents' judgements of the quality of the outcome of the problem situation, or in other words, how it turned out was also made. Participants were asked "Right at this moment, how do you view (the situation) that you dealt with today. Compared with earlier today, when you were dealing with it, how severe a problem does it seem right now?" Subjects rated the comparative problem severity on a 7 point scale where 1 = "it is no longer a problem", and 7 = "it is a much worse problem".

3. Results

Scale Development

Hassles Scale In the questionnaire asking participants about their daily hassles, the three greatest hassles for students (reflecting both frequency of endorsement and severity rating) were: their study load (sum = 204, $n=114$), meeting study deadlines (sum = 191, $n=115$) and the nature of their study (sum = 182, $n=115$). The three least hassles for students were : their drinking (sum = 15, $n=115$), mood altering drugs (sum = 13, $n=114$), and church or community organisations (sum = 16, $n=115$).

For each respondent, ratings on hassles scale items were summed to provide information about the level of daily hassles. Cases featuring more than one missing item were excluded.

Mood scales. Initially, scales measuring seven mood states were scored according to the specifications of the Manual for the Profile of Mood States (POMS) (McNair et al, 1971). Table 2 shows the 7 scales, the items identified with each scale and their Cronbach coefficient alphas as determined in the present study.

Table 2.

Inter-item Consistencies of Mood Scales

Scale	Cronbach coefficient alpha	
	no. items	this study ($n = 106$)
Depression -dejection (items: 5, 9, 14, 18, 21, 23, 32, 35, 36, 44, 45, 48, 58, 61, 62)	15	.96
Tension-anxiety (items: 2, 10, 16, 20, 22(reverse), 26, 27, 34, 44)	9	.92
Anger-hostility (items: 3, 12, 17, 24, 31, 33, 39, 42, 47, 52, 53, 57)	12	.95
Fatigue-inertia (items: 4, 11, 29, 40, 46, 49, 65)	7	.94
Confusion-bewilderment (items: 8, 28, 37, 50, 54(reverse), 59, 64)	7	.83
Friendliness (items: 1, 6, 13, 25, 30, 43, 53)	7	.81
Vigour-activity (items: 7, 15, 19, 38, 51, 56, 60, 63)	8	.88

As shown in Table 2, the inter-item consistency of each of the scales as derived in this study, was highly acceptable, exceeding the criterion of 0.7 usually adopted in research studies. However, examination of the inter-correlations among the scales, as shown in Table 3, showed a high degree of association among the scales measuring the moods: tension, depression, anger, fatigue and confusion, ($r = 0.62$ to $r = .87$, $p < .01$), and between the scales measuring friendliness and vigour ($r = 0.67$, $p < .01$). Bivariate correlations

between scales belonging to these two groups were not significant, except between friendliness and anger ($r = -.2043$, $p < .05$).

Table 3

Inter-correlations Among Mood Scales

	<u>n</u>	1	2	3	4	5	6
1.tension	114						
2.depression	111	.86**					
3.anger	112	.81**	.77**				
4.fatigue	112	.77**	.77**	.62**			
5.confusion	114	.83**	.87**	.71**	.78**		
6.friendliness	111	-.11	-.07	-.20*	.02	-.09	
7.vigour	113	-.04	-.08	-.07	-.12	-.16	.67**

* $p < .05$ ** $p < .01$

Given the high positive correlations among scales belonging in each of the two groups, and the non-significant or negative correlations between scales belonging to different groups, it was postulated that the first five scales (tension, depression, anger, fatigue, and confusion) might be better summarised as one scale, measuring negative mood, with the two scales measuring friendliness and vigour summarised as positive mood. The Cronbach coefficient alpha for the positive mood scale was 0.80 ($n=106$). For the negative mood scale it was 0.91 ($n=106$). Correlation between the two scales was not significant ($r = -.12$), suggesting they might measure two different and independent concepts.

There is evidence in support of this notion (eg Bradburn, 1967, Watson & Tellegen, 1985). In their 1985 reanalysis of studies of self-reported mood, Watson and Tellegen concluded that mood states were best conceptualised as two orthogonal and independent

dimensions: positive affect and negative affect. These factors were derived not only from orthogonal factor analyses, but also as the first two second-order factors derived from oblique solutions. Positive affect was defined as "zest for life" (Watson & Tellegen, 1985, p221), while negative affect was being "upset or unpleasantly aroused" (Watson & Tellegen, 1985, p221).

The positive and negative structure emerged with varying sets of descriptors, (eg Borgatta, 1961, McNair, Lorr & Droppleman, 1971, Thayer, 1967, Zevon & Tellegen, 1982), and with descriptors in a variety of languages (eg Watson, Clark & Tellegen, 1984). Further, positive and negative affect has been found to be differentially related to the personality dimensions of neuroticism and extroversion (Costa & McCrae, 1980), and also to clinical ratings of anxiety and depression (Hall, Dunner, Zeller, & Fieve, 1977). Given this evidence, this study proceeded with the use of a positive mood scale and a negative mood scale as measures of the psychological outcome of mood/emotion.

Coping Scales The eight scales measuring coping strategies were based on the factor analysis of data carried out by Folkman et al (1986) on the WOCC-R. The eight factors, the items of the WOCC - R allocated to each factor and the Cronbach coefficient alphas for each scale are shown in Table 4. A comparison of the coefficient alphas derived by Folkman et al (1986), and those derived in this study is also shown.

Table 4

Inter-item Consistencies of Coping Scales

Coping Strategies study(n=94)	no. items	Cronbach coefficient alpha	
		Folkman et al (1986)	this
confrontive coping (items: 46, 7, 17, 28, 34, 6)	6	.70	.73
distancing (items: 44, 13, 41, 21, 15, 12)	6	.61	.74
self-controlling (items: 14, 43, 10, 35, 54, 62, 63)	7	.70	.68
seeking social support (items: 8, 31, 42, 45, 18, 22)	6	.76	.77
accepting responsibility (items: 9, 29, 51, 25)	4	.66	.66
escape-avoidance (items: 58, 11, 59, 33, 40, 47, 16)	6	.72	.67
planful problem solving (items: 49, 26, 1, 39, 48, 52)	6	.68	.69
positive reappraisal (items: 23, 30, 36, 38, 60, 56, 20)	7	.79	.79

As noted previously, in this study a Cronbach coefficient alpha of above 0.7 was required for each scale. As shown in Table 4, the scales measuring confrontive coping, distancing, seeking social support and positive reappraisal met this criterion. The scale measuring planful problem solving marginally met the criterion, and the coefficient alphas for the escape-avoidance, self-controlling, and the accepting responsibility scales were slightly below the criterion. Results involving the scales with lower inter-item consistencies will need to be interpreted with more care.

However, the inter-item consistency data for the scales in this study are at least as reliable as in the Folkman et al (1986) study. In this study the scales measuring distancing and confrontation have higher inter-item consistencies, whereas the variable measuring escape-avoidance as a coping strategy has a somewhat lower inter-item consistency.

Across-Situation Differences

In this study, the random assignment of subjects to one of two questionnaires investigating different problem situations enabled exploration of the differences between the two situations in the various factors hypothesised to be involved in the coping process (see Table 5).

Two socio-demographic variables: age and sex were measured in this study. Overall, the proportion of women to men students was higher, with 78 of the 115 respondents being women (68 percent), and 37 being men (32 percent). Of the 52 respondents who completed the questionnaire on the exam situation, 19 were men and 33 were women (37 and 63 percent respectively). The 63 subjects who completed the questionnaire on the conflict situation were 18 men and 45 women (28 and 72 percent respectively). However, the proportions of men and women students completing the two different questionnaires were not significantly different ($t=.90$, $p=.37$ using dummy coding for sex).

The age of the students completing the questionnaire on the exam situation was higher than the age of those completing the questionnaire on interpersonal conflict, but again

this difference was not significant .

Differences in the daily demands faced by students across the two situations were also investigated. Mean hassles scores were not significantly different between the two situations. Also there were no differences in subjects' primary appraisals of the situations. Mean perceived controllability scores were not significantly different between the two situations.

A major focus of this study was the differences, if any, in the types of coping strategies adopted in two different situations. Some differences were identified. Table 5 shows the mean scores on each coping strategy in each of the two situations studied, while Table 7 shows the zero-order correlations when the type of problem situation faced was dummy coded. When dealing with a conflict with another person, students reported engaging in significantly more confrontation, self-control, positive reappraisal of the situation and seeking social support, than when dealing with an exam.

The strength of the association varied. Comparing the two situations, dealing with interpersonal conflict was most strongly associated with confrontive coping ($r = -.65$, $p < .01$), more moderately associated with the use of self-control and seeking social support (respectively, $r = -.28$, $p < .01$ and $r = .29$, $p < .01$), and relatively weakly associated with the use of positive reappraisal of the situation as a coping strategy ($r = -.19$, $p < .05$). (Refer Table 7.)

Of the three hypothesised outcomes, there was a significant difference between the two situations in only negative mood. Students who dealt with interpersonal conflict reported a more intense negative mood in relation to that encounter, than did students dealing with an exam or test. Positive mood levels and judgements of the comparative problem severity were similar across the two situations.

Table 5.

Socio-demographic and Environmental Factors, Appraisal Factors, and Outcome Measures
by Problem Situation

Measure	Interpersonal Conflict			Sitting an Exam			t values
	n	M	SD	n	M	SD	
Socio-demographic and Environmental Factors							
age	63	24.20	8.61	51	25.23	10.67	.56
hassles	60	33.10	18.98	51	33.65	21.71	.14
Appraisal Factors							
controllability	59	3.80	2.11	50	3.72	1.83	.20
Coping Strategies							
distancing	62	5.63	4.30	50	5.16	3.37	.65
self-controlling	62	7.63	4.07	51	5.41	3.33	3.19**
accepting							
responsibility	61	3.69	2.91	51	3.41	2.79	.51
planful problem - solving	63	6.22	3.98	52	6.52	3.63	.42
escape-avoidance	63	5.87	4.05	52	5.04	4.18	1.08
seeking social support	63	5.48	4.32	52	3.25	2.87	3.30**
confrontive coping	63	7.49	3.54	52	2.36	2.18	9.51**
positive reappraisal	61	5.15	4.96	51	3.45	3.16	2.19*
Outcomes							
positive mood	60	13.33	10.03	50	15.18	10.11	.96
negative mood	59	73.51	46.52	50	45.98	43.71	3.18**
comparative problem severity	63	3.11	1.50	52	2.60	1.43	1.88

*p<.05 **p<.01

Sex Differences in Coping Strategies

A hypothesis of this study was that there would be sex differences in the types of coping strategies. As noted previously, some overall differences were observed. However, the study also allowed sex differences in coping within a particular situation to be observed. As Table 6 shows, when faced with an exam, men and women students tended to use the same coping strategies. In this situation the hypothesis was therefore not supported.

However, when dealing with a situation involving conflict with another person, there was one difference between men and women students in the type of coping strategies used. Specifically, in this situation women students engaged in escape-avoidance to a significantly greater extent than did the men students. (Refer Table 6.)

Table 6.

Mean Use of Coping Strategies by Sex and Problem Situation

coping strategies	Women			Men			t value
	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	
Interpersonal conflict							
distancing	5.91	4.65	44	4.94	3.32	18	.92
self- controlling	7.80	4.13	45	7.18	3.97	17	.55
accepting responsibility	3.91	2.89	44	3.12	2.99	17	.94
planful problem solving	6.56	4.05	45	5.39	3.77	18	1.08
escape-avoidance	6.71	3.96	45	3.78	3.56	18	2.86**
seeking social support	5.93	4.33	45	4.33	4.20	18	1.35
confrontive coping	7.71	3.62	45	6.94	3.39	18	.80
positive reappraisal	5.74	5.24	43	3.72	3.99	18	1.64
Sitting an exam							
distancing	5.03	3.40	31	5.37	3.40	19	.34
self-controlling	5.37	2.98	32	5.47	3.94	19	.09
accepting responsibility	3.59	2.96	32	3.10	2.53	19	.62
planful problem solving	6.58	3.85	33	6.42	3.30	19	.15
escape-avoidance	5.36	4.35	33	4.47	3.91	19	.76
seeking social support	3.58	3.04	33	2.68	2.52	19	1.14
confrontive coping	2.42	2.08	33	2.26	2.40	19	.24
positive reappraisal	3.97	3.36	32	2.58	2.63	19	1.64

** $p < .01$

Coping and its Outcomes

To test the hypotheses that particular coping strategies were significant predictors of the outcome variables (negative mood, positive mood, and comparative problem severity), when the effects of socio-demographic, environmental, and appraisal factors were controlled, the three dependent variables were regressed on the various predictors. Prior to these analyses, the data was screened using various SPSS procedures to ensure that they met the assumptions of multi-variate regression (Norusis, 1988, Tabachnick and Fidell, 1989). Also, the simple bivariate correlations among the predictors and between the predictors and negative mood were examined. These investigations are presented in turn, beginning with an evaluation of the assumptions. Then, the zero-order correlations among the variables are examined, and third, the results of the hierarchical multiple regressions are presented.

Data Screening. Frequency data, correlational data, and standardised residuals were examined prior to analysis to check the fit of the data with the assumptions of multi-variate analysis. Two variables: age and positive reappraisal, showed positive skewness above the usually acceptable value of 1.00. However, while transformations produced a more normal distribution in these variables, particularly in the age variable, they produced regression solutions that were slightly inferior to those produced using untransformed data. Hence untransformed data were used in all of the analyses.

With the use of a $p < .001$ criterion for Mahalanobis distance, no outliers were identified when the dependent variable was comparative problem severity. However, when the dependent variable was either of the mood states, case 21113 was observed to be an outlier, and was accordingly excluded. This case was influential because of its extreme values on the variables measuring the coping strategies of positive reappraisal and self-control.

Case 11010 was also excluded from the regression on the positive mood variable because its standardised residual value was above 3.16 standard deviations from the mean. This case was characterised by extremely low values on the hassles and controllability factors and low or nil values on all of the coping strategy variables, with a high value on the

positive mood variable (above 3 SD from the mean).

Correlations among the Predictors Table 7 shows that many of the hypothesised predictors of the three outcome variables mood were themselves correlated. Considering first the hypothesised personal and environmental factors, age was correlated with sex ($r=.20, p<.05$) - men students tended to be older than women students. Also, men students tended to see the stressful situation as more controllable than did women students ($r=.25, p<.01$).

As hypothesised, the socio-demographic factors were related to the degree of use of certain of the coping strategies. Age and the use of problem-solving was significantly related ($r=.20, p<.05$). Older students tended to make greater use of this strategy, than did younger students. There were also differences between the sexes in respect of the use of different coping strategies. Women students tended to make positive reappraisals of the situation ($r=-.20, p<.05$) and to use escape-avoidance strategies ($r=-.23, p<.05$), to a greater extent than did men students.

Further, as noted previously, when the problem situation was interpersonal conflict, higher use of confrontive coping strategies, self-control, positive reappraisal of the situation, and seeking social support was observed.

Another factor significantly related to coping strategy use was the degree of hassles experienced. It was hypothesised that different coping strategies would be adopted depending on the level of adverse demands. This idea was not supported by the data. Rather, having many hassles was significantly related to reports of high use of all of the strategies in relation to the problem situation ($r=.20, p<.05$ to $r=.54, p<.01$).

Finally, as hypothesised, the perceived controllability of the situation was related to choice of coping strategy. If students considered that the situation was one that they could do something about, then they tended to engage in more confrontive coping ($r=.23, p<.05$), and have a higher acceptance of their responsibility for the situation ($r=.24, p<.05$).

Table 7 also shows the inter-correlations among the various scales measuring coping strategies. Most of the coping strategies were not independent of one another, with

significant positive correlations between all pairs of scales except between distancing and seeking social support, and between distancing and confrontive coping.

Table 7.

Correlations among Predictors

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. age													
2. sex ^a	.20*												
3. problem situation ^b	.05	.08											
4. hassles	-.02	-.12	.01										
5. controll-ability	-.12	.25**	-.02	.08									
6. self-control	.11	-.06	-.28**	.47**	.08								
7. problem-solving	.20**	-.08	.04	.30**	.05	.45**							
8. escape-avoidance	-.09	-.23*	-.10	.54**	.02	.54**	.29**						
9. seeking social support	-.00	-.17	-.29**	.30**	-.02	.38**	.33**	.39**					
10. distancing	.04	-.05	-.06	.27**	.15	.53**	.21*	.26**	.09				
11. positive reappraisal	.12	-.20*	-.19*	.30**	-.07	.56**	.55**	.42**	.36**	.28**			
12. accepting responsibility	-.01	-.11	-.05	.41**	.24*	.31**	.30**	.53**	.27**	.21*	.45**		
13. confront-ive coping	-.06	-.11	-.65**	.20*	.23*	.32**	.22*	.32**	.46**	.17	.23*	.19*	
n	114	115	115	115	109	113	115	115	115	112	112	112	115
M	24.67	.32	.45	33.35	3.76	6.62	6.35	5.49	4.47	5.42	4.37	3.56	5.18
SD	9.56	.47	.50	20.16	1.98	3.90	3.81	4.11	3.89	3.90	4.30	2.84	3.94

a 0=female, 1=male b 0=interpersonal conflict, 1=sitting an exam

* $p < .05$ ** $p < .01$

Correlations among the Outcomes. As noted previously, the correlation between positive mood and negative mood was not significant ($r = -.12$). However, the judgment of comparative problem severity was inversely related to positive mood ($r = .28$, $p < .01$, that is, judgements that the problem had worsened were inversely related to increased positive mood), and quite strongly positively associated with negative mood ($r = .48$, $p < .01$). Hence, a judgment that the problem was a lot worse than previously was likely to be associated with a low positive mood rating and a high negative mood rating.

Correlations Between the Predictors and the Outcomes. Of particular interest in this study was the pattern of zero-order associations between the various hypothesised predictors and the three outcome variables. Different patterns emerged in respect of each outcome variable. These are discussed in turn. (Refer Table 8.)

Negative mood was associated with many of the hypothesised predictor variables. While there was no relationship with either of the socio-demographic variables, negative mood was strongly positively associated with the level of daily demands ($r = .49$, $p < .01$), and was also moderately indicated if the problem situation was interpersonal conflict ($r = .29$, $p < .01$). Negative mood was positively associated with the use of 7 of the 8 coping strategies, with correlations ranging from .21 ($p < .05$) to .71 ($p < .01$). It was not associated with the adoption of distancing oneself from the situation as a coping strategy.

None of the socio-demographic or environmental variables was related to positive mood, and neither was the appraised controllability of the problem situation. Just three of the coping strategies showed an association with positive mood. They were: distancing oneself from the situation, problem solving, and positively reappraising the situation ($r = .28$, .33, and .32 respectively, all $p < .01$).

The assessment of the comparative problem severity was related to few of the factors measured in this study. A judgment that the problem had worsened in severity was associated with greater use of self-controlling strategies ($r = .21$, $p < .01$), escape avoidance strategies ($r = .30$, $p < .01$), and to a lesser extent, seeking social support ($r = .19$, $p < .05$).

Table 8.
Correlations Between Predictors and Outcome Measures

Predictor Variable	Outcomes		
	Negative Mood	Positive Mood	Comparative Problem Severity
Socio-demographic and Environmental Factors			
Age	.01	.05	.14
Sex	-.14	-.00	-.09
problem situation	-.29**	.09	-.17
hassles	.49**	.00	.18
Appraisal Factors			
controllability	.05	.01	-.02
Coping Strategies			
distancing	.17	.28**	-.07
self-controlling	.42**	.16	.21**
accepting responsibility	.39**	.11	.09
planful problem-solving	.21*	.33**	-.04
escape-avoidance	.71**	.04	.30**
seeking social support	.46**	.09	.19*
confrontive coping	.40**	.04	.10
positive reappraisal	.27**	.32**	.03

* $p < .05$ ** $p < .01$

Multivariate analysis Procedures. Hierarchical regression analyses were employed to determine which, if any, coping strategies improved prediction of the three dependent variables: negative mood, positive mood, and comparative problem severity, after controlling for the socio-demographic, environmental and appraisal factors.

The transactional theory of stress and coping sees coping as a process in which coping responses are made in the context of prior appraisals of the situation. These prior appraisals are, in turn, made in the context of antecedent environmental, socio-demographic and personal factors (eg Lazarus, 1990, Lazarus et al, 1985). Accordingly, the two demographic factors (age and sex), were entered at step 1 in the present study. To reflect the random assignment of subjects to one or other of the two questionnaires, the type of problem situation faced was entered at step 2. The factors entered at step 3, the degree of hassles faced and the appraised controllability of the problem situation, were hypothesised to precede the activation of coping responses on the day of the problem situation. At step 4 the 8 variables assessing coping strategies were entered in one block. Analysis was performed using SPSS REGRESSION.

Prediction of Negative Mood. Table 9 displays the improvements in the prediction of negative mood at each step of the regression. Neither age nor sex contributed significantly to the prediction of negative mood at the first step ($R^2 = .03$, $F(2,91) = 1.27$, $p=.29$). After the type of problem situation was added at step 2, the prediction of negative mood was significant ($R^2 = .11$, $F(3,90) = 3.80$, $p<.05$). The further addition of the hassles and controllability variables contributed a great deal to the prediction of negative mood ($R^2 = .37$, $F(5,88) = 10.21$, $p<.001$). At the final step, the addition of coping strategies also added substantially to the prediction of negative mood ($R^2 = .65$, $F(13,80) = 11.44$, $p<.001$). Adjusted R^2 was .59.

Table 9.

Hierarchical Regression of Negative Mood (n=94)

Step	R^2	F(eqn)	Significant F	R^2 Change	F Change	Significant F Change
1	.03	1.27	.29	.03	1.3	.29
2	.11	3.80	.01	.09	8.6	.004
3	.37	10.21	.000	.25	17.7	.000
4	.65	11.44	.000	.28	8.9	.000

Table 10 displays the unstandardised regression coefficients (B), the standardised regression coefficients (β), the zero-order correlations (r), and the semi-partial correlations (sr) of the variables in the final equation. The hypothesis that avoiding the problem and seeking support would tend to detract from wellbeing was partly supported. The factors shown to contribute significantly to the prediction of negative mood were: age, the level of hassles experienced that day, and the degree of use of escape-avoidance as a coping strategy. In other words, older students, with a high score on the daily hassles

scale, and who used escape-avoidance strategies greatly would tend to show high scores on the negative mood scale. The involvement of seeking social support in the prediction of decreased wellbeing was in the hypothesised direction, although not significant at conventional levels.

Table 10.

Regression of Negative Mood - Variables in the Final Equation

variable	<u>B</u>	<u>beta</u>	<u>r</u>	<u>sr</u>
sex ^a	.83	.01	-.12	.01
age	.91*	.18	.08	.16
problem situation ^b	-16.05	-.17	-.30	-.10
hassles	.47*	.19	.50	.15
controllability	.27	.01	.03	.01
distancing	-.40	-.03	.07	-.03
problem solving	-1.49	-.12	.12	-.09
accepting responsibility	.56	.03	.41	.02
seeking social support	1.84	.15	.49	.11
escape-avoidance	7.12**	.59	.71	.38
positive reappraisal	.04	.00	.25	.00
self-controlling	-1.77	-.14	.39	-.09
confrontive coping	1.52	.13	.43	.07

*p<.05. **p<.01 a 1=male, 0=female b 1=exam, 0=interpersonal conflict

Prediction of Positive Mood. Table 11 displays the successive improvements in the prediction of positive mood. Neither age nor sex contributed significantly to the prediction of positive mood at the first step ($R^2 = .02$, $F(2,93) = 1.02$, $p=.36$). The type of problem situation made no significant contribution at step 2 ($R^2 = .03$, $F(3,92) = .91$, $p=.44$), and neither did the further addition of the hassles and controllability variables at step 3 ($R^2 = .03$, $F(5,90) = .59$, $p=.71$). At the final step, the addition of coping strategies contributed significantly to the prediction of positive mood ($R^2 = .26$, $F(13,82) = 2.23$, $p<.05$), although a significant proportion of its variance remained unexplained. Adjusted R^2 was .14.

Table 11.

Hierarchical Regression of Positive Mood (n=96)

Step	R^2	F(eqn)	Significant F	R^2 Change	F Change	Significant F Change
1	.02	1.02	.36	.02	1.02	.36
2	.03	.91	.44	.01	.68	.41
3	.03	.58	.71	.00	.12	.88
4	.26	2.23	.01	.23	3.19	.003

In Table 12 the factors shown to contribute significantly to the prediction of the degree of positive mood in relation to a problem experienced that day were two coping strategies: distancing oneself from the situation, and positive reappraisal of the situation. When these strategies were used a lot, positive mood scores would tend to be higher. The involvement of all the other hypothesised factors was not significant.

Although these results were not in line with the hypothesis that problem-solving efforts would contribute significantly to psychological wellbeing, the involvement of

problem solving strategies was in the hypothesised direction.

Table 12

Regression of Positive Mood - Variables in the Final Equation

variable	<u>B</u>	<u>beta</u>	<u>r</u>	<u>sr</u>
sex ^a	1.71	.08	.06	.07
age	.06	.06	.14	.06
problem situation ^b	2.93	.15	.10	.09
hassles	-.01	-.03	.02	-.02
controllability	.22	.05	.03	.03
distancing	.64*	.24	.26	.20
problem solving	.41	.16	.35	.12
accepting responsibility	.13	.04	.14	.03
seeking social support	.06	.02	.10	.02
escape-avoidance	-.33	.14	.01	-.09
positive reappraisal	.84*	.33	.35	.22
self-control	-.22	-.08	.15	-.05
confrontation	.25	.10	.05	.06

* $p < .05$

a 1=male, 0=female b 1=exam, 0=interpersonal conflict

Prediction of Comparative Problem Severity. Table 13 displays the improvements in the prediction of comparative problem severity - the judgment given in the evening by the respondents in respect of the comparative severity of the problem they had experienced earlier that day. By step 3, with the contribution of age, sex, type of problem situation, its perceived controllability and level of daily hassles accounted for, the prediction of comparative problem severity was barely significant ($R^2 = .11$, $F(5,93) = 2.28$, $p=.05$). At the final step, with the addition of coping strategies, the prediction of comparative problem severity reached significance. However, the contribution of coping strategies as a block was not significant ($R^2 = .23$, $F(13,85) = 1.93$, $p<.05$). Adjusted R^2 was .11.

Table 13.

Hierarchical Regression of Comparative Problem Severity (n=99)

Step	R^2	F(eqn)	Significant F	R^2 Change	F Change	Significant F Change
1	.02	1.21	.30	.02	1.21	.30
2	.07	2.26	.09	.04	4.26	.04
3	.11	2.28	.05	.04	2.22	.11
4	.23	1.93	.04	.12	1.63	.13

Table 14 shows that, in the final equation, the only factor that made a significant contribution, and marginally so at that, was the coping strategy of distancing oneself from the situation. However, as the overall contribution of coping was not significant, this finding must be considered marginal at best. The safer conclusion is that none of the hypothesised variables made any difference to judgments of the comparative severity of the problem.

Finally, it must be noted that the tentative hypothesis that coping efforts significantly involved in the prediction of psychological wellbeing would also be involved in the prediction of comparative problem severity was not supported by the data.

Table 14.

Regression of Comparative Problem Severity - Variables in the Final Equation

variable	<u>B</u>	<u>beta</u>	<u>r</u>	<u>sr</u>
sex ^a	-.24	-.07	-.13	-.07
age	-.01	-.05	-.12	-.04
problem situation ^b	-.47	-.15	-.22	-.10
hassles	.00	.04	.21	.03
controllability	.05	.07	.00	.06
distancing	-.10*	-.23	-.07	-.19
problem solving	-.06	-.16	-.04	-.11
accepting responsibility	-.01	-.01	.16	-.01
seeking social support	.02	.06	.23	.04
escape-avoidance	.10	.26	.34	.16
positive reappraisal	-.01	-.02	.11	-.01
confrontive coping	-.03	-.08	.16	-.05
self-control	.10	.25	.25	.15

* $t=1.965$, $p=.053$

4. Discussion

The Discussion commences with a brief resume of the findings of this study, following with a more detailed discussion of the data in relation to each of the study's main hypotheses. Finally, the limitations to the present study, the contribution that it has made, and its implications for clinical practice and current theory on stress and coping are discussed.

Summary of Principal Findings

This study was interested in three issues in relation to coping processes. First, it considered the factors that might influence people's choices of coping strategies. It hypothesised that different coping strategies would be adopted depending upon the sex and age of the person, the situation being coped with, the level of adverse daily demands, and the way the situation was appraised. Second, it was hypothesised that, overall, after controlling for these socio-demographic, environmental and appraisal factors, coping would make a significant difference to psychological wellbeing. The study focussed on the roles of several different coping strategies: problem-solving, distancing, seeking social support, and escape-avoidance, and positive appraisal. Third, the study was interested in the roles of different coping strategies in relation to how the problem situation turned out. It was tentatively hypothesised that coping strategies would relate to judgements about the outcome of the problem situation, in the same way that they related to psychological wellbeing.

In relation to the first issue, the findings were, in brief, that socio-demographic and appraisal factors were relatively unimportant in relation to coping strategy choices, but environmental factors were very important. Having a high level of adverse daily demands was associated with heavy reliance on each and every one of the coping strategies. Further, the adoption of particular coping strategies depended on the type of problem situation. Comparing the two situations being studied, experience of interpersonal conflict was more likely to be associated with self-controlling strategies, seeking social support, and reappraisal of the situation than was experience of an exam or test.

Second, coping did make a difference to psychological wellbeing, after controlling for the socio-demographic, environmental and appraisal factors. However, most of these factors were not, as hypothesised, significantly involved in the coping-outcomes process. In respect of the specific coping strategies, trying to escape from or avoid a situation and seeking support from others were associated with decreased psychological wellbeing, with the strategy of escape-avoidance standing out as being particularly maladaptive. The strategies of planful problem solving, distancing and positive reappraisal of the situation were observed to relate to enhanced positive wellbeing. The latter two strategies stood out in making significant independent contributions to improved psychological outcomes.

In relation to judgements about how the problem situation had turned out, factors hypothesised to be involved in the coping process had little impact, and this outcome remained poorly accounted for. Hence, the tentative hypothesis that, across different outcomes, similar ways of coping strategies would be involved was not supported using multi-variate techniques. From the correlational data comes tentative evidence that the coping mechanisms emphasising self-control, escape-avoidance and seeking social support are associated with both heightened negative mood and a perception that the problem situation has worsened.

Factors Influencing Coping

The following discusses in more detail, the findings in relation to each of the factors that were thought might have some impact on coping choices.

Socio-demographic factors. There were some overall differences between men and women students in their use of coping strategies, with women students depending more on escape-avoidance strategies, and positive reappraisal of the situation. This trend is consistent with other studies, (eg Billings and Moos, 1980).

A slightly different picture emerged however, when the context of coping was taken into account. Fewer differences in coping responses appeared when the situation being coped with was controlled. In the exam situation, there were no differences between men

and women in their coping endeavours, and in the conflict situation, the only difference was that women adopted more escape-avoidance strategies. These data point to the usefulness of specifying the problem situation quite closely, when considering gender differences in coping, rather than averaging coping responses across a range of life situations.

The present study showed that older students made greater use of problem solving as a strategy. It has been suggested that this may reflect the different types of problems that different age-groups face (McCrae, 1982, cited in Aldwin, 1991), and in many studies, the situations being coped with are specified by the respondent, and are not classified or described in the study (eg Folkman et al, 1987, Irion and Blanchard-Fields, 1987). In this study however, the problems faced were specified quite closely, so perhaps other factors account for the association between age and using problem-solving. Other possibilities are that age-differences are a function of either developmental processes, or cohort differences (Aldwin, 1991), or that both of these processes may be at work.

Environmental Factors. One of the aims of this study was to investigate differences in the use of coping strategies between two different situations. The strategy of comparing coping responses across different domains of life experience has been adopted in a few other studies, but these have tended to classify coping strategies rather broadly, as either problem-focused or emotion-focused (eg Billings and Moos, 1981, Compas et al, 1986, Folkman and Lazarus, 1980). These strategies were found to have similar utility across a wide range of situations.

The findings of the present study are more in line with other studies which, using a more fine-grained classification of coping strategies, have identified both variability and consistency in the use of different coping strategies across both different adult roles (Pearlin and Schooler, 1978) and different issues faced by adolescents (Frydenberg and Lewis, 1994). In the present study, people in conflict with another person were much more inclined to engage in self-control, to seek support from others, to reappraise the situation in a positive way, and to engage in confrontive strategies, than they were when faced with an exam or test. There were no differences in the use of strategies such as planful problem

solving and distancing.

The pattern of differences between the two situations may reflect the impersonal focus of an exam or test in contrast to the personal focus of interpersonal conflict, and quite simply, the inapplicability of WOCC-R items, some to the exam situation, and some to the interpersonal conflict situation. More confrontive strategies might be expected with interpersonal conflict because they involve interaction with another person. Occasion for confronting others would not arise in relation to sitting an exam or test. Similarly, personal rather than impersonal situations might occasion greater use of positive reappraisal, with its themes of personal development and religiosity. Greater emphasis on controlling oneself in a conflict situation may reflect the lower predicability of that situation, and the need to refrain from acting too precipitately, in contrast with the more ordered sequence of events and the behaviours required at each step, on the day of an exam. Finally, on the day of an exam or test students may spend much of their time revising, rather than seeking support from others.

The other important environmental factor studied was the level of background demands faced by the individual. In the present study, the use of each coping strategy to address a particular problem seemed to be related to the overall level of general daily demands on the person. Having many daily hassles was likely to be associated with a high level of use of each and every one of the coping strategies in relation to the specific problem, while having few daily hassles in one's life was likely to be associated with fewer coping efforts being made when a specific situation arose. These data contrast with the findings of Lu (1991) and Menaghan (1982) that the level of adverse daily events is linked with differences in coping choices, and suggest more that individuals tend to engage in an increasing frenzy of coping with each new problem situation as the day passes and hassles mount.

However, alternative interpretations of the data must be acknowledged. Perhaps the experience of a high level of adverse demands merely makes people more aware of their efforts at coping, so that they tend to report greater efforts. It is also possible that people experiencing a heavy load of hassles were less able to differentiate between the coping

strategies that they used in a particular situation and the coping strategies they used in general.

Appraisal Factors. In this study, perceiving that the outcome of the problem situation could be changed was associated with a tendency to accept responsibility for it, and to engage in aggressive and confrontive attempts to change the situation. It was not also associated with more deliberate and planful attempts at making changes to the situation, as has been found for adults coping with daily living (Folkman & Lazarus, 1980, Folkman et al, 1986). Perhaps these differences stem from differences in the types of problem situations studied. In the studies conducted by Folkman and her colleagues, participants described their appraisals and coping responses in relation to a recent stressful episode, and this would have allowed a much broader range of problem situations to be included, compared to the present study. Perhaps the use of planful problem solving in relation to problems perceived as controllable relates more to the problems of daily living faced by adults generally, than it does to the two specific problems faced by tertiary students in the present study.

Coping and its Outcomes

In this study, short-term psychological wellbeing was conceptualised as two orthogonal and independent concepts: positive mood and negative mood. It was found that coping strategies related to each of these outcomes in quite different ways.

Coping and Negative Mood. Looking at the zero-order correlational data, negative mood was likely to be increased when the emphases were on self-control, escape-avoidance, seeking social support, positive reappraisal, accepting responsibility, confrontive coping, and problem solving (although more marginally). In fact it was likely to be increased when any of the ways of coping were adopted, except for the strategy of distancing oneself from the situation. However, when statistically controlling for the effects of socio-demographic, environmental and appraisal factors, as well as the inter-relationships among the different

coping strategies, this study found that the roles of all but one of the coping strategies in contributing towards negative mood disappeared. Only escape-avoidance remained influential and its contribution was to further exacerbate negative mood.

The role of escape-avoidance responses in contributing to greater distress is consistent with existing evidence. Wishful thinking, involving desires that the situation would go away or change contributed to the emotions of worry, fear and anxiety in students preparing for an exam (Folkman and Lazarus, 1985), and also significantly predicted negative affect in sufferers of chronic illness (Felton and Revenson, 1984). Greater marital distress has been predicted by greater emphasis on selectively ignoring the unpleasant aspects of marriage (while focusing on its positive features), consciously suppressing feeling, withdrawing from interaction, and viewing the marital situation relatively pessimistically (Menaghan, 1982). Finally, avoidance coping predicted greater depression and anxiety among both men and women in relation to a self-named stressful episode (Billings and Moos, 1981).

Another means of coping that this study was particularly interested in was the strategy of seeking social support. In terms of making an independent contribution to negative mood this way of coping was found to have no role at conventional significance levels ($t=1.7$, $p=.089$), although it did act in the hypothesised direction - to heighten negative mood. This data is in line with the results of some other studies, where adoption of this strategy has predicted increased marital distress (Pearlin and Schooler, 1978), the emotions of worry and anxiety in students preparing for an exam (Folkman and Lazarus), and poorer mental wellbeing (Aldwin and Revenson, 1987).

Overall, when all of the measured variables were in the regression equation, 65 percent of the variance in negative mood was accounted for. When the effects of socio-demographic and environmental variables, and appraisal factors were included, coping contributed about 40 percent of the explained variance, indicating that even though the unique contribution from most of the strategies was modest, not reaching significance levels, people reported a lot of coping were more likely to feel miserable and upset in relation to the particular problem they had dealt with. This may seem counter-intuitive, but

it is possible that coping strategy choice did not matter. Rather, the overall effort put into coping determined subsequent wellbeing. Perhaps a lot of coping was not effective coping. Rather, minimal effort would be better for minimising distress (Aldwin and Revenson, 1987).

Another possibility, as provided for in the transactional theory of stress and coping, is that coping and negative mood are part of a feedback loop in which heightened distress feeds into greater coping efforts. A further possibility, as mentioned previously, is that greater distress makes individuals more aware of the many efforts that they are making to alleviate that distress. People experiencing lower distress may be putting similar efforts into coping, but their awareness of their coping activities is lower.

In the present study, the influence of personal and environmental factors on negative mood was very important, making a collective contribution of about 60 percent of the explained variance. The two factors involved were: the level of daily environmental demands, and the age of respondents.

Feeling more miserable in relation to the specific problem situation seemed to be associated with having many adverse daily demands, and suggests that when the day is particularly stressful overall, one's mood in relation to a specific incident may be much worse than if that incident was a relatively isolated one. At face-value, this result extends the more general findings of greater distress in the context of more daily problems (eg Billings and Moos, 1981, Caspi, Bolger and Eckenrode, 1987, DeLongis et al, 1988, Eckenrode, 1984, Lu, 1991, Marco and Suls, 1993) and more marital problems (Menaghan, 1982). However, another possibility is that respondents were not be able to differentiate their emotions or mood in relation to a specific incident from their feelings and emotions about the day in general.

An unexpected finding of this study was that the age factor made a significant and independent contribution to the prediction of negative mood. In other words, older students were generally more miserable and upset in relation to the particular problem situation they had dealt with than were younger students. This finding remained even when the age variable, which was originally more skewed than is usually considered desirable, was

transformed to produce a more normal distribution. However, the finding was considered questionable because the zero-order correlation between age and negative mood was not significant ($r=.08$). In line with the recommendations of Tabachnick and Fidell (1989), to deal with such seemingly inconsistent findings, a systematic search was made for the presence of a factor which may have acted to suppress unwanted variance in either the age or negative mood variable, and hence enhance the predictive power of the age variable. No such factor was identified, and the finding in relation to the age variable remains questionable.

Finally, mention should be made of the nil finding for the appraised controllability of the situation in predicting psychological outcome variables, in contrast to the findings of Folkman and Lazarus (1980, 1985). One possibility is that there was no main effect for appraised controllability, and its influence was exerted in the context of specific ways of coping. This mode of operation has been identified in two studies. Forsythe and Compas (1987) found that severe psychological symptoms occurred only when coping strategies aimed at making changes were adopted in relation to a stressful situation that had been appraised as being uncontrollable. Conversely, symptoms were minimal when a stressful situation perceived as uncontrollable was dealt with by efforts aimed at controlling one's emotional reactions to it. Similarly, when problem focused coping was adopted in relation to an event perceived as controllable, symptoms were also minimal. Second, Conway and Terry (1992) found no significant main effect for appraised controllability, but a significant interaction between its operation and the use of self-denigration as a coping strategy in predicting depression. The negative effects of self-denigration were exacerbated in situations appraised as more controllable.

While this possibility is acknowledged, the present study did not explore it further as the sample size was considered to be too small to permit valid conclusions from the additional analyses that would be required.

A second possibility, to account for the lack of a role for the controllability variable in the present study, is that its effects in a particular study are very sensitive to the way that it is operationalised. While this study emphasised the perception of being able to change or

do something about the situation (as Folkman and Lazarus, 1980 did), other researchers have emphasised subjects' perception of their control over the situation (Folkman and Lazarus, 1985, Forsythe and Compas, 1987), or have developed a scale with multiple items (Conway and Terry, 1992.)

Coping and Positive Mood Just three coping strategies were associated with a tendency to have a positive frame of mind about the problem incident. These strategies were: problem-solving, distancing oneself from the situation, and positively reappraising the situation. The role of problem-solving is in line with the findings of Folkman and Lazarus (1988) in relation to coping by adults with a self-chosen stressful episode, where problem-solving was associated with an improved emotional state.

Distancing oneself from the situation was related to improvements in positive mood. This strategy includes behaviours and cognitions such as making light of the situation, going on as if nothing had happened, trying to forget the problem, and going along with fate. However, this finding runs counter to Folkman and Lazarus (1988) where distancing oneself had negative effects. There may be several explanations for this difference. First, the present study confined subjects' responses to two specific situations whereas Folkman and Lazarus allowed subjects to provide data about a self-chosen stressful episode. Second, Folkman and Lazarus (1988) sampled a respondent population that was generally much older than the population sampled in this study. Perhaps distancing efforts are more a feature of younger age-groups, particularly when facing situations appraised as threatening, as suggested by Irion and Blanchard-Fields (1987). Further, in a ranking of 12 coping strategies derived from the Adolescent Coping Orientation for Problem Experiences, being humorous was the coping strategy most frequently adopted by male adolescents, and the fifth most frequently adopted among female adolescents (Patterson and McCubbin, 1987).

One of the surprising findings of this study was that positive reappraisal was related to both increased positive and negative wellbeing, although the multi variate analyses showed that the principal role of this strategy was in improving positive wellbeing. However, if positive and negative mood are independent states as hypothesised by Watson

and Tellegen (1985), then some means of coping may well have implications for both negative and positive affect states.

In the regression analysis carried out in this study, heightened positive mood was predicted by just two of the factors studied: distancing oneself from the situation, and positive reappraisal of it. These two strategies may both alter the meaning of the stressful event, to seeing the problem, not in negative terms, but rather in a more neutral or positive light. Such a perception of the problem may not be held by those individuals emphasising strategies such as self-control, accepting responsibility for the situation, escape-avoidance, seeking social support and confrontation.

In the regression analysis, there was no significant role for the strategy of problem-solving in the prediction of positive mood, although its contribution was in the hypothesised direction ($t=1.2$, $p=.22$) Other studies have found a significant role for this strategy in, for example, enhancing feelings of confidence, hopefulness and eagerness in students before an exam (Folkman and Lazarus, 1985), better mood in sufferers of chronic illness (Felton and Revenson, 1984), and reduction in marital distress (Pearlin and Schooler, 1978).

Overall, very little of the variance in positive mood (in relation to a particular incident) was actually accounted for. Coping contributed the lion's share of the variance that was explained, with a negligible contribution being associated with the personal, environmental and appraisal factors.

Other factors, not included in the present study, might account for some of the unexplained variance. These might include cognitive characteristics such as the degree of field independence (Gorman and Wessman, 1974), stable personality dimensions such as the complexity of self-concept (Linville, 1982), and extroversion (Costa and McCrae, 1980, Diener & Emmons, 1984, study 4, Emmons and Diener 1985), and features of one's social milieu such as having a high level of readily available support from friends and intimates (for example, refer to the review by Cohen and Wills, 1985).

Another possibility is, as noted previously, that the effects on positive mood of coping with the specific problem situations investigated in this study fully manifest themselves much later than the evening after the event.

Coping and Encounter Outcome. A special interest of this study was to demonstrate the importance of setting coping strategies not only against wellbeing measures, but also against measures of how the encounter actually turned out. This outcome that has been largely ignored in the literature on stress and coping, even though a predominant view has been to consider coping as having two foci - to manage one's emotional response to a situation, and also to change the outcome of the situation (Folkman and Lazarus, 1980).

The findings were that judgments that the problem was worse and more worrisome were associated with coping by self-control, escape-avoidance, and seeking social support. No strategies were significantly linked with perceptions that the problem situation seemed improved, or less worrisome. This result contrasts with other findings that high use of problem solving can contribute to improved outcomes (Aldwin and Revenson, 1987, Folkman et al, 1986), although in these studies the problem situation was specified by the participants. In the regression analyses of the present study, the final prediction of comparative problem severity by the variables measured was barely significant ($F = 1.93$, $p=.04$) and only 23 percent of its variance was accounted for.

The stage by stage additions of the environmental, socio-demographic and appraisal factors made no appreciable contributions to the judgement of how the problem situation turned out. More importantly, there was no significant role for coping efforts as a whole, although one coping strategy - distancing oneself from the situation, contributed marginally toward the explanation of this outcome. However, given that the impact of coping efforts overall on judgments of the encounter outcome was not significant, and given that the zero-order relationship between distancing and the judgement of comparative problem severity was also not significant ($r=-.07$), this finding must remain questionable.

Several factors may account for the poor explanation of the quality of encounter outcome variable. One possibility is that the comparative problem severity variable was not an adequate measure of the quality of encounter outcome. A better measure might include several aspects of this outcome, rather than just one, as in this study. For example, a quality of encounter outcome measure might include: perceived coping efficacy (how well subjects

thought they handled the problem situation, given the circumstances, (Aldwin and Revenson, 1987), judgments about whether the problem had got worse or better (Folkman and Lazarus, 1986), appraisals of how satisfactory was the problem outcome (Folkman and Lazarus, 1986), predictions of perceived long term consequences (good or otherwise) of the situation (Zautra and Wrabetz, 1991), and perceptions of contributions to the improvement of intimate relationships (Laux and Weber, 1987).

Second, the request to judge how the problem situation had turned out may have been inappropriately timed. The impacts of coping on judgements of comparative problem severity may not become apparent as soon as the evening of the day on which the problem situation was experienced. Finally, the limited explanation of the variance in the comparative problem severity variable points to the involvement of other factors, not included in the present study.

Coping in Relation to Outcomes in Different Domains

The tentative hypothesis that across the two different types of outcomes, similar coping strategies would be involved was supported only at the correlational level of analysis. Coping by self-control, escape-avoidance, and seeking social support was significantly associated with both increases in negative mood, and judgments that the problem was worse and more worrisome. On the other hand, some coping strategies which were quite strongly indicative of negative mood were not also indicative of judgements of greater problem severity. These coping strategies were: accepting responsibility, and confrontive coping. No coping strategies that contributed to positive mood outcomes also contributed to judgments that the problem had become less worrisome. Given these data, it seems that the impacts of coping may show both generality and specificity in their linkages with outcomes at different levels of human experience.

This notion is supported by those studies that have adopted multiple outcome measures. For adults coping with one of four different chronic illnesses, information-seeking contributed to positive affect, but was not related to either negative affect or acceptance of illness. The strategy of wish fulfilling fantasy was not related to positive

affect, but had a significant role in increasing negative affect and reducing illness acceptance (Felton and Revenson, 1984). However, for adults coping with marital problems, making optimistic comparisons contributed to both lower distress and fewer problems at a later time, while negotiation did not reduce ongoing feelings of distress, but did contribute to fewer problems at the later date (Menaghan, 1982).

Limitations to the Conclusions

The validity of the conclusions made in this study must be judged against the validity and reliability with which the constructs were measured and the severity of the threats to internal validity. The extent to which the conclusions can be generalised to other populations and settings must also be considered.

Data has been presented on the reliability and validity of the various measures adopted, and the problems with relying exclusively on self-reported data have been discussed. The issue of possible conceptual and empirical overlap between constructs, particularly between predictor and outcome variables, has also been canvassed. For example, subjects reporting that they coped with a problem situation by making light of it (a predictor variable), may also have reported that it seemed less troublesome than earlier (an outcome variable).

The methodology adopted in this study attempted to reduce threats to internal validity by adopting several desirable design features (a homogeneous population, statistical control of possible third variables, and a retrospective design) but several problems remained. While its retrospective focus was preferable to a purely cross-sectional design, the conclusions about cause-effect relationships from retrospective studies may be flawed if subjects' responses to one part of the questionnaire are contaminated by knowledge of their responses to other parts (Brown, 1974). In the present study, responses to questions about comparative problem severity may have been influenced by subjects' knowledge of their responses to items about coping. For this reason, any conclusions made by this study about the causative relationships among the variables involved in the coping process must remain tentative.

Another important threat to the validity of the conclusions was the small size of the sample in relation to the breadth of the variables that were observed. A better cases-to-variables ratio may have clarified the roles of some of the variables that were, in the present study, just marginally involved. A larger sample may have also clarified the possible role of the age variable in contributing toward negative mood, and of coping efforts overall in contributing toward judgments about the quality of the encounter outcome. The present study produced questionable results about these relationships.

In psychological research, strategies to enhance the internal validity of a study can limit attempts at generalising the results to other populations and settings. In the present study, a relatively homogeneous population, tertiary students in a small Australian city, was sampled, and the conclusions may not be applicable even to other similarly aged populations. For example, young adults in the work force and unemployed young adults may cope with interpersonal conflict in different ways to tertiary students. Even given the same source population, it is possible that people who didn't volunteer to participate in this study may have coped with the two situations studied in ways that were markedly different from the ways that the participants adopted.

The present study restricted itself to sampling coping in two quite specific problem situations. However, it did not identify whether the hassles, ways of coping and outcomes on that day were representative of that individual's life situation (Lazarus, 1991). Further, the present study did not identify whether the situation was a new one for the subjects, or whether they had dealt with it before. People may cope with new problems in different ways to recurring problems (Laux and Weber, 1987), and there is evidence that expected negative events are associated with a milder negative response than are negative events that are unexpected (Ham and Larson, 1990).

Implications for further research and clinical practice

The adoption of a "micro-analytic style of research" (Lazarus and Folkman, 1987, p160) by this study, with its focus on cognitions, behaviours and feelings in relation to specific time-limited incidents in peoples' lives, has provided data about the coping process

consistent with the framework provided by the transactional model for stress and coping. Specifically, using hierarchical regression procedures to statistically model the process of coping, it showed that, after controlling for third variable effects, coping made a difference to psychological wellbeing. Moreover, some specific coping strategies were shown to have particularly important roles in the process.

The present study met two of the three conditions set by Lazarus and Folkman (1987) for studying coping using the transactional framework. First, it described coping thoughts and acts that actually took place, rather than thoughts and acts that people usually engaged in. Second, observations related to particular contexts, rather than everyday life in general, which is a characteristic of the many studies that have asked respondents to describe their coping responses in relation to a self-chosen incident. The findings by the present study of differences in coping strategies across situations suggest that studying other common situations in detail would be of use, not only in illuminating the nature of the coping process further, but also in assisting clinical practice.

The present study fell short of meeting the third criterion, of depicting coping as a dynamic process in which different strategies may be brought into play as the person/environment transaction unfolds. While narrowing the period of focus to the day that the problem situation occurred, the study did not identify when particular strategies were used, in other words, whether they were used before, during, or after the exam or interpersonal conflict. There is evidence that subjects make quite varying interpretations of the timing and duration of the "coping period" on which researchers request them to report (Stone, Greenberg, Kennedy-Moore, and Newman, 1991), and this methodological problem may act to blur cause-effect relationships in the unfolding coping process. The research showing differences in students' coping and emotions at different stages of the examination process - before the exam, immediately afterwards, and after the grades have been posted (Folkman and Lazarus, 1985, Carver and Scheier, 1994), endorses the value of studying coping as a process.

The findings of the present study, although equivocal, endorse the value of assessing outcomes at several levels of human experience - at the physiological level (eg

symptoms of ill-health), at the psychological level (eg emotion, mood, anxiety, depression), and at the quality of encounter level (eg satisfaction with encounter outcome, comparative severity of problem). Moreover, while the majority of published research relates coping to negative wellbeing measures, and while there have been calls from a number of authors (eg Aldwin and Revenson, 1987, Antonovsky, 1979, Holahan and Moos, 1990, Jahoda 1958) to move the research focus back to positive mental health and improved psychological functioning, perhaps future research should relate coping to both positive and negative wellbeing outcomes. This suggestion is supported by the findings of differences in the role of coping in relation to positive and negative wellbeing states in the few studies that have measured both states (eg Felton and Revenson, 1984, Folkman and Lazarus, 1985, 1988). It seems that there are both similarities and differences in the ways that different coping strategies may contribute to positive and negative wellbeing states, and to outcomes as different levels of experience. These differences do not become apparent if single outcome measures are adopted.

Finally, the findings of the present study have relevance to clinical practice, particularly in tertiary counselling services, although it must be acknowledged that research studies produce data on general trends, and the unique circumstances of an individual are largely ignored. Given this caveat, the present findings support interventions at the individual level oriented toward promoting means of coping that detract from negative mood states, enhance positive mood states, and improve problem situations. Ways of coping such as positive reappraisal of a situation, distancing oneself from the situation, and deliberate, planful problem solving effort would be encouraged. Responses that involved escape from and avoidance of the situation would be actively discouraged, as would attempts to seek support from others. The role of heavy adverse daily demands in contributing to distress would be acknowledged, and interventions aimed at either reducing these demands or removing the individual from the situation would be proposed. The effectiveness of coping would be judged against a range of outcome measures, including both positive and negative wellbeing states, and a measure of the quality of the encounter outcome.

5. References

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Appendix 1: Questionnaire: Dealing with an Exam or Test

CONFIDENTIAL

CODE NUMBER: E _____

**DEALING WITH
CHALLENGING AND
STRESSFUL SITUATIONS:
A SURVEY OF
TERTIARY STUDENTS**

IMPORTANT: Please fill out this questionnaire in the **evening** of one day in the next two or three weeks. That day must be one on which you sit a major test or exam. For example, if you have a test or exam on Tuesday, you would fill out the questionnaire on Tuesday evening, shortly before you go to bed.

HASSLES YOU FACED TODAY
- THE DAY YOU SAT A TEST OR EXAM

Hassles are irritants - things that annoy or bother you: they can make you upset or angry. Some hassles occur on a fairly regular basis, and others are relatively rare. Some have only a slight effect, others have a strong effect.

This questionnaire lists things that can be hassles in day - to - day life. You may find that during the course of today some of these things will have been a hassle for you.

DIRECTIONS: *Please think about how much of a hassle each item was for you today. Indicate how much of a hassle it was by circling the appropriate number.*

Please circle one number for each item.				
	none, not applicable	some- what	quite a bit	a great deal
Today, how much of a hassle was:				
1.	0	1	2	3
2.	0	1	2	3
3.	0	1	2	3
4.	0	1	2	3
5.	0	1	2	3
6.	0	1	2	3
7.	0	1	2	3
8.	0	1	2	3
9.	0	1	2	3
10.	0	1	2	3
11.	0	1	2	3
12.	0	1	2	3
13.	0	1	2	3
14.	0	1	2	3
15.	0	1	2	3
16.	0	1	2	3
17.	0	1	2	3
18.	0	1	2	3

Please circle one number for each item

	none, not applicable	some- what	quite a bit	a great deal
Today, how much of a hassle was:				
19. enough money for your study	0	1	2	3
20. enough money for emergencies	0	1	2	3
21. enough money for extras (eg entertainment, recreation, holidays)	0	1	2	3
22. financial care for someone who doesn't live with you	0	1	2	3
23. investments	0	1	2	3
24. your smoking	0	1	2	3
25. your drinking	0	1	2	3
26. mood - altering drugs	0	1	2	3
27. your physical appearance	0	1	2	3
28. contraception	0	1	2	3
29. exercise(s)	0	1	2	3
30. your medical care	0	1	2	3
31. your health	0	1	2	3
32. your physical abilities	0	1	2	3
33. the weather	0	1	2	3
34. news events	0	1	2	3
35. your environment (eg quality of air, noise level, greenery)	0	1	2	3
36. political or social issues	0	1	2	3
37. your neighbourhood (eg neighbours, setting)	0	1	2	3
38. conserving (gas, electricity, water, petrol)	0	1	2	3
39. pets	0	1	2	3
40. cooking	0	1	2	3
41. housework	0	1	2	3
42. home repairs	0	1	2	3
43. work in your back yard	0	1	2	3
44. car, motorbike or bicycle maintenance	0	1	2	3
45. taking care of paperwork (eg paying bills, filling out forms)	0	1	2	3
46. home entertainment (eg TV, music, reading)	0	1	2	3
47. amount of free time	0	1	2	3
48. recreation and entertainment outside the home (eg movies, sports, eating out, walking)	0	1	2	3
49. eating (at home)	0	1	2	3
50. church or community organisations	0	1	2	3
51. legal matters	0	1	2	3
52. being organised	0	1	2	3
53. social commitments	0	1	2	3

**WHAT YOU DID TODAY
IN DEALING WITH THE EXAM/TEST**

Write in the space below about your experiences today in relation to the exam or test that you sat today. Outline briefly what you did today in relation to this exam or test - where you were, who else was there and what happened.

YOUR PERCEPTION OF THE SITUATION

*DIRECTIONS: On this seven point scale, please rate how much you think that the outcome of the exam or test today could have been **changed** in some way. Is this situation one that you could do something about?*

Please circle one number

The outcome of this situation:

1. couldn't be changed at all
2. could be changed just slightly
3. could be changed a little bit
4. could be changed somewhat
5. could be changed quite a bit
6. could be changed a great deal
7. could be changed totally.

WAYS OF DEALING WITH THE SITUATION

Each situation that we face in our daily lives can be dealt with in a number of different ways. This questionnaire lists many ways that people can use to deal with challenging and stressful situations. You may find that you used some of these strategies today in dealing with the exam/test.

DIRECTIONS: *Please read each item . Indicate, by circling the appropriate number, the extent to which you used each strategy in dealing with the exam/test today.*

0 = not used

1 = used somewhat

2 = used quite a bit

3 = used a great deal

Please circle one number for each item				
	not used	used some- what	used quite a bit	used a great deal
Today, in relation to the exam/test, I :				
1. Just concentrated on what I had to do next - the next step	0	1	2	3
2. Tried to analyse the problem in order to understand it better.	0	1	2	3
3. Turned to work or substitute activity to take my mind off things.	0	1	2	3
4. Felt that time would make a difference - the only thing to do was wait.	0	1	2	3
5. Bargained or compromised to get something positive from the situation	0	1	2	3
6. Did something which I didn't think would work, but at least I was doing something.	0	1	2	3
7. Tried to get the person responsible to change his or her mind.	0	1	2	3
8. Talked to someone to find out more about the situation.	0	1	2	3
9. Criticised or lectured myself.	0	1	2	3
10. Tried not to burn my bridges, but leave things open somewhat.	0	1	2	3

Please circle one number for each item

	not used	used some- what	used quite a bit	used a great deal
Today, in relation to the exam/test , I :				
11. Hoped a miracle would happen.	0	1	2	3
12. Went along with fate, sometimes I just have bad luck.	0	1	2	3
13. Went on as if nothing had happened.	0	1	2	3
14. Tried to keep my feelings to myself.	0	1	2	3
15. Looked for the silver lining, so to speak.; tried to look on the bright side of things	0	1	2	3
16. Slept more than usual.	0	1	2	3
17. Expressed anger to the person(s) who caused the problem.	0	1	2	3
18. Accepted sympathy and understanding from someone.	0	1	2	3
19. Told myself things that helped me feel better.	0	1	2	3
20. Was inspired to do something creative.	0	1	2	3
21. Tried to forget the whole thing.	0	1	2	3
22. Got professional help.	0	1	2	3
23. Changed or grew as a person in a good way.	0	1	2	3
24. Waited to see what would happen before doing anything	0	1	2	3
25. Apologised, or did something to make up.	0	1	2	3
26. Made a plan of action and followed it.	0	1	2	3
27. Accepted the next best thing to what I wanted.	0	1	2	3
28. Let my feelings out somehow.	0	1	2	3
29. Realised I brought the problem on myself.	0	1	2	3
30. Came out of the experience better than when I went in.	0	1	2	3
31. Talked to someone who could do something concrete about the problem.	0	1	2	3
32. Got away from it for a while, tried to rest.	0	1	2	3
33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication etc	0	1	2	3
34. Took a big chance or did something very risky.	0	1	2	3
35. Tried not to act too hastily or follow my first hunch.	0	1	2	3
36. Found new faith.	0	1	2	3
37. Maintained my pride and kept a stiff upper lip.	0	1	2	3
38. Rediscovered what is important in life.	0	1	2	3
39. Changed something so things would turn out all right.	0	1	2	3
40. Avoided being with people in general.	0	1	2	3

Please circle one number for each item

	not used	used some- what	used quite a bit	used a great deal
Today, in relation to the exam/test, I :				
41. Didn't let it get to me; refused to think too much about it.	0	1	2	3
42. Asked a relative or friend I respected for advice.	0	1	2	3
43. Kept others from knowing how bad things were.	0	1	2	3
44. Made light of the situation; refused to get too serious about it.	0	1	2	3
45. Talked to someone about how I was feeling.	0	1	2	3
46. Stood my ground and fought for what I wanted.	0	1	2	3
47. Took it out on other people.	0	1	2	3
48. Drew on my past experiences; I was in a similar situation before.	0	1	2	3
49. Knew what had to be done, so I doubled my efforts to make things work.	0	1	2	3
50. Refused to believe that it had happened.	0	1	2	3
51. Made a promise to myself that things would be different next time.	0	1	2	3
52. Came up with a couple of different solutions to the problem.	0	1	2	3
53. Accepted it, since nothing could be done.	0	1	2	3
54. I tried to keep my feelings from interfering with other things too much.	0	1	2	3
55. Wished that I could change what had happened or how I felt.	0	1	2	3
56. Changed something about myself.	0	1	2	3
57. Daydreamed or imagined a better time or place than the one I was in.	0	1	2	3
58. Wished that the situation would go away or somehow be over with.	0	1	2	3
59. Had fantasies or wishes about how things might turn out.	0	1	2	3
60. Prayed.	0	1	2	3
61. Prepared myself for the worst.	0	1	2	3
62. Went over in my mind what I would say or do.	0	1	2	3
63. Thought about how a person I admire would handle this situation and used that as a model.	0	1	2	3
64. Tried to see things from the other person's point of view.	0	1	2	3
65. Reminded myself how much worse things could be.	0	1	2	3
66. Jogged or exercised.	0	1	2	3
67. Tried something entirely different from any of the above. (please describe)	0	1	2	3
.....				

YOUR PRESENT MOOD

Below is a list of words that describe feelings that people have. At this moment, you may have one, some, or many of these feelings in relation to the exam/test you sat today.

DIRECTIONS: *Please read each item carefully. For each one, circle the number that best describes the extent to which you feel that way right now in relation to the exam /test you sat today.*

0 = not at all 1 = a little 2 = moderately 3 = quite a bit 4 = extremely

Please circle one number for each item.						
		not at all	a little	moder- ately	quite a bit	extreme- ly
Right now, in relation to the exam/test I sat today, I feel:						
1.	friendly	0	1	2	3	4
2.	tense	0	1	2	3	4
3.	angry	0	1	2	3	4
4.	worn out	0	1	2	3	4
5.	unhappy	0	1	2	3	4
6.	clear headed	0	1	2	3	4
7.	lively	0	1	2	3	4
8.	confused	0	1	2	3	4
9.	sorry for things done	0	1	2	3	4
10.	shaky	0	1	2	3	4
11.	listless	0	1	2	3	4
12.	peevd	0	1	2	3	4
13.	considerate	0	1	2	3	4
14.	sad	0	1	2	3	4
15.	active	0	1	2	3	4
16.	on edge	0	1	2	3	4
17.	grouchy	0	1	2	3	4
18.	blue	0	1	2	3	4
19.	energetic	0	1	2	3	4
20.	panicky	0	1	2	3	4
21.	hopeless	0	1	2	3	4
22.	relaxed	0	1	2	3	4
23.	unworthy	0	1	2	3	4
24.	spiteful	0	1	2	3	4
25.	sympathetic	0	1	2	3	4

Please circle one number for each item.

	not at all	a little	moder- ately	quite a bit	extreme- ly
Right now, in relation to the exam/test I sat today, I feel:					
26. uneasy	0	1	2	3	4
27. restless	0	1	2	3	4
28. unable to concentrate	0	1	2	3	4
29. fatigued	0	1	2	3	4
30. helpful	0	1	2	3	4
31. annoyed	0	1	2	3	4
32. discouraged	0	1	2	3	4
33. resentful	0	1	2	3	4
34. nervous	0	1	2	3	4
35. lonely	0	1	2	3	4
36. miserable	0	1	2	3	4
37. muddled	0	1	2	3	4
38. cheerful	0	1	2	3	4
39. bitter	0	1	2	3	4
40. exhausted	0	1	2	3	4
41. anxious	0	1	2	3	4
42. ready to fight	0	1	2	3	4
43. good natured	0	1	2	3	4
44. gloomy	0	1	2	3	4
45. desperate	0	1	2	3	4
46. sluggish	0	1	2	3	4
47. rebellious	0	1	2	3	4
48. helpless	0	1	2	3	4
49. weary	0	1	2	3	4
50. bewildered	0	1	2	3	4
51. alert	0	1	2	3	4
52. deceived	0	1	2	3	4
53. furious	0	1	2	3	4
54. efficient	0	1	2	3	4
55. trusting	0	1	2	3	4
56. full of pep	0	1	2	3	4
57. bad-tempered	0	1	2	3	4
58. worthless	0	1	2	3	4
59. forgetful	0	1	2	3	4
60. carefree	0	1	2	3	4
61. terrified	0	1	2	3	4
62. guilty	0	1	2	3	4
63. vigorous	0	1	2	3	4
64. uncertain about things	0	1	2	3	4
65. bushed	0	1	2	3	4

HOW BIG A PROBLEM IS IT?

DIRECTIONS: *Right at this moment, how do you view the exam or test that you sat today. Compared with earlier today, when you were dealing with it, how severe a problem does it seem right now?*

Please circle one number

Compared with earlier today:

1. it is no longer a problem
2. it is much less of a problem.
3. it is slightly less of a problem.
4. it is about the same problem.
5. it is a slightly worse problem.
6. it is a somewhat worse problem.
7. it is a much worse problem.

YOUR AGE AND SEX

1. **your age:** years months

2. **your sex:** male female (please circle one)

Thanks for completing the questionnaire.

Please bring it to your next class in this subject, and I will collect it from you then.

If you have provided me with an address, I will send you a short report on the results of this study around the end of semester. Once again, many thanks.

Marie Taylor,
 Clinical Masters Student
 Psychology Department
 Australian National University
 19 July 1993

Appendix 2: Questionnaire: Dealing with Interpersonal Conflict

CONFIDENTIAL

CODE NUMBER: C_____

**DEALING WITH
CHALLENGING AND
STRESSFUL SITUATIONS:
A SURVEY OF
TERTIARY STUDENTS**

IMPORTANT: Please fill out the questionnaire in the **evening** of one day in the next two or three weeks. That day must be one in which you are involved in some conflict with another person. For example, if you have an argument with a friend on Tuesday, you would fill out the questionnaire on Tuesday evening, shortly before you go to bed.

HASSLES YOU FACED TODAY
- A DAY YOU WERE IN CONFLICT WITH ANOTHER PERSON

Hassles are irritants - things that annoy or bother you: they can make you upset or angry. Some hassles occur on a fairly regular basis, and others are relatively rare. Some have only a slight effect, others have a strong effect.

This questionnaire lists things that can be hassles in day - to - day life. You may find that during the course of today some of these things will have been a hassle for you.

DIRECTIONS: *Please think about how much of a hassle each item was for you today. Indicate how much of a hassle it was by circling the appropriate number.*

Please circle one number for each item.				
	none, not applicable	some- what	quite a bit	a great deal
Today, how much of a hassle was:				
1. your child(ren)	0	1	2	3
2. your parents or parents - in - law	0	1	2	3
3. other relative(s)	0	1	2	3
4. your spouse, boyfriend or girlfriend	0	1	2	3
5. health or well being of a family member	0	1	2	3
6. time spent with family	0	1	2	3
7. sex	0	1	2	3
8. intimacy	0	1	2	3
9. family related obligations	0	1	2	3
10. your friends	0	1	2	3
11. your fellow students	0	1	2	3
12. fellow workers, your boss or employer	0	1	2	3
13. lecturers, teachers or tutors	0	1	2	3
14. the nature of your study	0	1	2	3
15. your study load	0	1	2	3
16. the security of your job	0	1	2	3
17. meeting study deadlines	0	1	2	3
18. enough money for necessities (eg food clothing, housing, health care)	0	1	2	3

Please circle one number for each item

	none, not applicable	some- what	quite a bit	a great deal
Today, how much of a hassle was:				
19. enough money for your study	0	1	2	3
20. enough money for emergencies	0	1	2	3
21. enough money for extras (eg entertainment, recreation, holidays)	0	1	2	3
22. financial care for someone who doesn't live with you	0	1	2	3
23. investments	0	1	2	3
24. your smoking	0	1	2	3
25. your drinking	0	1	2	3
26. mood - altering drugs	0	1	2	3
27. your physical appearance	0	1	2	3
28. contraception	0	1	2	3
29. exercise(s)	0	1	2	3
30. your medical care	0	1	2	3
31. your health	0	1	2	3
32. your physical abilities	0	1	2	3
33. the weather	0	1	2	3
34. news events	0	1	2	3
35. your environment (eg quality of air, noise level, greenery)	0	1	2	3
36. political or social issues	0	1	2	3
37. your neighbourhood (eg neighbours, setting)	0	1	2	3
38. conserving (gas, electricity, water, petrol)	0	1	2	3
39. pets	0	1	2	3
40. cooking	0	1	2	3
41. housework	0	1	2	3
42. home repairs	0	1	2	3
43. work in your back yard	0	1	2	3
44. car, motorbike or bicycle maintenance	0	1	2	3
45. taking care of paperwork (eg paying bills, filling out forms)	0	1	2	3
46. home entertainment (eg TV, music, reading)	0	1	2	3
47. amount of free time	0	1	2	3
48. recreation and entertainment outside the home (eg movies, sports, eating out, walking)	0	1	2	3
49. eating (at home)	0	1	2	3
50. church or community organisations	0	1	2	3
51. legal matters	0	1	2	3
52. being organised	0	1	2	3
53. social commitments	0	1	2	3

**WHAT YOU DID TODAY
IN DEALING WITH A CONFLICT OR PROBLEM WITH SOMEONE**

Write in the space below about your experiences today in relation to the conflict or problem that you had with someone today. It could have been conflict with a friend, an acquaintance, a lover, a lecturer or tutor, an employer, staff at a shop, or a member of your family. Outline briefly what you did today in relation to this incident, where it was, who else was there and what happened.

YOUR PERCEPTION OF THE SITUATION

DIRECTIONS: On this seven point scale, please rate how much you think that the outcome of the conflict or problem that you had with another person today could have been changed in some way. Is this situation one that you could do something about?

Please circle one number

The outcome of this situation:

1. couldn't be changed at all
2. could be changed just slightly
3. could be changed a little bit
4. could be changed somewhat
5. could be changed quite a bit
6. could be changed a great deal
7. could be changed totally.

WAYS OF DEALING WITH THE SITUATION

Each situation that we face in our daily lives can be dealt with in a number of different ways. This questionnaire lists many ways that people can use to deal with challenging and stressful situations. You may find that you used some of these strategies today in dealing with the conflict or problem situation that you had with another person.

DIRECTIONS: *Please read each item. Indicate, by circling the appropriate number, the extent to which you used each strategy in dealing with the conflict or problem situation that you had with someone today.*

0 = not used

1 = used somewhat

2 = used quite a bit

3 = used a great deal

Please circle one number for each item				
	not used	used some- what	used quite a bit	used a great deal
Today, in relation to the conflict that I had with another person, I:				
1. Just concentrated on what I had to do next - the next step	0	1	2	3
2. Tried to analyse the problem in order to understand it better.	0	1	2	3
3. Turned to work or substitute activity to take my mind off things.	0	1	2	3
4. Felt that time would make a difference - the only thing to do was wait.	0	1	2	3
5. Bargained or compromised to get something positive from the situation	0	1	2	3
6. Did something which I didn't think would work, but at least I was doing something.	0	1	2	3
7. Tried to get the person responsible to change his or her mind.	0	1	2	3
8. Talked to someone to find out more about the situation.	0	1	2	3
9. Criticised or lectured myself.	0	1	2	3
10. Tried not to burn my bridges, but leave things open somewhat.	0	1	2	3

Please circle one number for each item

	not used	used some- what	used quite a bit	used a great deal
Today, in relation to the conflict that I had with another person, I :				
11. Hoped a miracle would happen.	0	1	2	3
12. Went along with fate, sometimes I just have bad luck.	0	1	2	3
13. Went on as if nothing had happened.	0	1	2	3
14. Tried to keep my feelings to myself.	0	1	2	3
15. Looked for the silver lining, so to speak.; tried to look on the bright side of things	0	1	2	3
16. Slept more than usual.	0	1	2	3
17. Expressed anger to the person(s) who caused the problem.	0	1	2	3
18. Accepted sympathy and understanding from someone.	0	1	2	3
19. Told myself things that helped me feel better.	0	1	2	3
20. Was inspired to do something creative.	0	1	2	3
21. Tried to forget the whole thing.	0	1	2	3
22. Got professional help.	0	1	2	3
23. Changed or grew as a person in a good way.	0	1	2	3
24. Waited to see what would happen before doing anything	0	1	2	3
25. Apologised, or did something to make up.	0	1	2	3
26. Made a plan of action and followed it.	0	1	2	3
27. Accepted the next best thing to what I wanted.	0	1	2	3
28. Let my feelings out somehow.	0	1	2	3
29. Realised I brought the problem on myself.	0	1	2	3
30. Came out of the experience better than when I went in.	0	1	2	3
31. Talked to someone who could do something concrete about the problem.	0	1	2	3
32. Got away from it for a while, tried to rest.	0	1	2	3
33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication etc	0	1	2	3
34. Took a big chance or did something very risky.	0	1	2	3
35. Tried not to act too hastily or follow my first hunch.	0	1	2	3
36. Found new faith.	0	1	2	3
37. Maintained my pride and kept a stiff upper lip.	0	1	2	3
38. Rediscovered what is important in life.	0	1	2	3
39. Changed something so things would turn out all right.	0	1	2	3
40. Avoided being with people in general.	0	1	2	3

Please circle one number for each item

not	used	used	used
used	some-	quite	a great
	what	a bit	deal

Today, in relation to the conflict that I had with another person, I :

- | | | | | |
|---|---|---|---|---|
| 41. Didn't let it get to me; refused to think too much about it. | 0 | 1 | 2 | 3 |
| 42. Asked a relative or friend I respected for advice. | 0 | 1 | 2 | 3 |
| 43. Kept others from knowing how bad things were. | 0 | 1 | 2 | 3 |
| 44. Made light of the situation; refused to get too serious about it. | 0 | 1 | 2 | 3 |
| 45. Talked to someone about how I was feeling. | 0 | 1 | 2 | 3 |
| 46. Stood my ground and fought for what I wanted. | 0 | 1 | 2 | 3 |
| 47. Took it out on other people. | 0 | 1 | 2 | 3 |
| 48. Drew on my past experiences; I was in a similar situation before. | 0 | 1 | 2 | 3 |
| 49. Knew what had to be done, so I doubled my efforts to make things work. | 0 | 1 | 2 | 3 |
| 50. Refused to believe that it had happened. | 0 | 1 | 2 | 3 |
| 51. Made a promise to myself that things would be different next time. | 0 | 1 | 2 | 3 |
| 52. Came up with a couple of different solutions to the problem. | 0 | 1 | 2 | 3 |
| 53. Accepted it, since nothing could be done. | 0 | 1 | 2 | 3 |
| 54. I tried to keep my feelings from interfering with other things too much. | 0 | 1 | 2 | 3 |
| 55. Wished that I could change what had happened or how I felt. | 0 | 1 | 2 | 3 |
| 56. Changed something about myself. | 0 | 1 | 2 | 3 |
| 57. Daydreamed or imagined a better time or place than the one I was in. | 0 | 1 | 2 | 3 |
| 58. Wished that the situation would go away or somehow be over with. | 0 | 1 | 2 | 3 |
| 59. Had fantasies or wishes about how things might turn out. | 0 | 1 | 2 | 3 |
| 60. Prayed. | 0 | 1 | 2 | 3 |
| 61. Prepared myself for the worst. | 0 | 1 | 2 | 3 |
| 62. Went over in my mind what I would say or do. | 0 | 1 | 2 | 3 |
| 63. Thought about how a person I admire would handle this situation and used that as a model. | 0 | 1 | 2 | 3 |
| 64. Tried to see things from the other person's point of view. | 0 | 1 | 2 | 3 |
| 65. Reminded myself how much worse things could be. | 0 | 1 | 2 | 3 |
| 66. Jogged or exercised. | 0 | 1 | 2 | 3 |
| 67. Tried something entirely different from any of the above. (please describe) | 0 | 1 | 2 | 3 |

YOUR PRESENT MOOD

Below is a list of words that describe feelings that people have. At this moment, you may have one, some, or many of these feelings in relation to the conflict or problem that you had with someone today.

DIRECTIONS: *Please read each item carefully. For each one, circle the number that best describes the extent to which you feel that way right now in relation to the conflict or problem that you had with another person earlier today.*

0 = not at all 1 = a little 2 = moderately 3 = quite a bit 4 = extremely

Please circle one number for each item.					
	not at all	a little	moder- ately	quite a bit	extreme- ly
Right now, in relation to today's conflict with another person, I feel:					
1. friendly	0	1	2	3	4
2. tense	0	1	2	3	4
3. angry	0	1	2	3	4
4. worn out	0	1	2	3	4
5. unhappy	0	1	2	3	4
6. clear headed	0	1	2	3	4
7. lively	0	1	2	3	4
8. confused	0	1	2	3	4
9. sorry for things done	0	1	2	3	4
10. shaky	0	1	2	3	4
11. listless	0	1	2	3	4
12. peeved	0	1	2	3	4
13. considerate	0	1	2	3	4
14. sad	0	1	2	3	4
15. active	0	1	2	3	4
16. on edge	0	1	2	3	4
17. grouchy	0	1	2	3	4
18. blue	0	1	2	3	4
19. energetic	0	1	2	3	4
20. panicky	0	1	2	3	4
21. hopeless	0	1	2	3	4
22. relaxed	0	1	2	3	4
23. unworthy	0	1	2	3	4
24. spiteful	0	1	2	3	4
25. sympathetic	0	1	2	3	4
26. uneasy	0	1	2	3	4
27. restless	0	1	2	3	4

Please circle one number for each item.

	not at all	a little	moder- ately	quite a bit	extreme- ly
Right now, in relation to today's conflict with another person, I feel:					
28. unable to concentrate	0	1	2	3	4
29. fatigued	0	1	2	3	4
30. helpful	0	1	2	3	4
31. annoyed	0	1	2	3	4
32. discouraged	0	1	2	3	4
33. resentful	0	1	2	3	4
34. nervous	0	1	2	3	4
35. lonely	0	1	2	3	4
36. miserable	0	1	2	3	4
37. muddled	0	1	2	3	4
38. cheerful	0	1	2	3	4
39. bitter	0	1	2	3	4
40. exhausted	0	1	2	3	4
41. anxious	0	1	2	3	4
42. ready to fight	0	1	2	3	4
43. good natured	0	1	2	3	4
44. gloomy	0	1	2	3	4
45. desperate	0	1	2	3	4
46. sluggish	0	1	2	3	4
47. rebellious	0	1	2	3	4
48. helpless	0	1	2	3	4
49. weary	0	1	2	3	4
50. bewildered	0	1	2	3	4
51. alert	0	1	2	3	4
52. deceived	0	1	2	3	4
53. furious	0	1	2	3	4
54. efficient	0	1	2	3	4
55. trusting	0	1	2	3	4
56. full of pep	0	1	2	3	4
57. bad-tempered	0	1	2	3	4
58. worthless	0	1	2	3	4
59. forgetful	0	1	2	3	4
60. carefree	0	1	2	3	4
61. terrified	0	1	2	3	4
62. guilty	0	1	2	3	4
63. vigorous	0	1	2	3	4
64. uncertain about things	0	1	2	3	4
65. bushed	0	1	2	3	4

HOW BIG A PROBLEM IS IT?

DIRECTIONS: *Right at this moment, how do you view the conflict that you had with another person today. Compared with earlier today, when you were dealing with the situation, how severe a problem does it seem right now?*

Please circle one number

Compared with earlier today:

1. it is no longer a problem
2. it is much less of a problem.
3. it is slightly less of a problem.
4. it is about the same problem.
5. it is a slightly worse problem.
6. it is a somewhat worse problem.
7. it is a much worse problem.

YOUR AGE AND SEX

1. **your age:** years months

2. **your sex:** male female (please circle one)

Thanks for completing the questionnaire.

Please bring it to your next class in this subject and I will collect it from you then.

If you have provided me with an address, I will send you a short report on the results of this study around the end of semester. Once again, many thanks.

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Appendix 3. Correlation Matrices for Regressions of Outcomes on Predictors

Table 15.

Correlation matrix for regression of Negative Mood (n=94)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. negative mood													
2. age	.08												
3. sex	-.12	.24											
4. problem situation	-.31	.03	.12										
5. hassles	.50	-.07	-.12	.01									
6. controllability	.03	-.14	.27	.04	.06								
7. self-control	.38	.10	-.03	-.29	.43	-.02							
8. problem-solving	.12	.23	-.02	.02	.21	.01	.37						
9. escape-avoidance	.71	-.07	-.18	-.07	.55	-.01	.52	.22					
10. seeking social support	.49	.01	-.14	-.36	.35	.02	.45	.30	.41				
11. distancing	.08	.06	-.04	.02	.15	.10	.44	.12	.18	.08			
12. positive reappraisal	.25	.10	-.17	-.18	.15	-.25	.45	.55	.34	.45	.12		
13. accepting responsibility	.41	-.05	-.08	-.02	.36	.25	.26	.27	.55	.26	.13	.38	
14. confrontative coping	.42	-.04	-.09	-.69	.16	.23	.33	.20	.26	.46	.15	.19	.16

a 0=female, 1=male b 0=interpersonal conflict, 1=sitting an exam

correlations above 0.20 significant at $p=.05$ (two-tailed), and correlations above 0.26 significant at $p=.01$ (two-tailed)

Table 16.

Correlation matrix for regression of Positive Mood (n=96)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. positive mood													
2. age	.14												
3. sex	.06	.21											
4. problem situation	.10	.07	.16										
5. hassles	.02	-.09	-.13	.09									
6. controll-ability	.03	-.16	.26	.06	.01								
7. self-control	.15	.06	-.06	-.24	.42	-.05							
8. problem-solving	.35	.18	-.06	.08	.20	.00	.34						
9. escape-avoidance	.01	-.10	-.20	-.04	.53	-.07	.49	.17					
10. seeking social support	..10	-.03	-.17	-.36	.28	-.01	.40	.24	.40				
11. distancing	..26	.04	-.05	.05	.16	.08	.43	.10	.16	.05			
12. positive reappraisal	.35	.06	-.20	-.14	.17	-.28	.43	.53	.33	.41	.11		
13. accepting responsibility	.14	-.09	-.10	.02	.35	.19	.24	.22	.54	.23	.11	.38	
14. confront-ive coping	.05	-.07	-.12	-.67	.11	.20	.29	.15	.26	.47	.13	.16	.13

a 0=female, 1=male b 0=interpersonal conflict, 1=sitting an exam

correlations above 0.20 significant at $p=.05$ (two-tailed), and correlations above 0.26 significant at $p=.01$ (two-tailed)

Table 17.

Correlation matrix for regression of Comparative Problem Severity(n=99)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. comparative problem severity													
2. age	-.11												
3. sex ^a	-.13	.24											
4. problem situation ^b	-.22	.03	.14										
5. hassles	.21	-.03	-.13	.03									
6. controll-- ability	.00	-.11	.26	.02	.08								
7. self-control	.25	.13	-.05	-.28	.49	.05							
8. problem- solving	-.04	.25	-.04	.01	.29	.08	.44						
9. escape- avoidance	.34	-.04	-.19	-.08	.57	-.00	.55	.26					
10. seeking social support	.24	.00	-.15	-.37	.29	.02	.39	.26	.40				
11. distancing	-.07	0.9	-.05	.00	.25	.14	.51	.22	.24	.07			
12. positive reappraisal	.11	.12	-.18	-.18	.27	-.17	.53	.59	.40	.39	.24		
13. accepting responsibility	.16	-.03	-.08	-.02	.40	.23	.31	.30	.57	.25	.19	.43	
14. confront- ive coping	.17	-.03	-.10	-.68	.15	.23	.33	.20	.30	.48	.17	.20	.17

a 0=female, 1=male b 0=interpersonal conflict, 1=sitting an exam

correlations above 0.19 significant at $p=.05$ (two-tailed), and correlations above 0.25 significant at $p=.01$ (two-tailed)