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Coping with health-related problems and psychological distress amongst older adult hospital patients

Fotini Katerina Zachariades
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TITLE

**COPING WITH HEALTH-RELATED PROBLEMS AND
PSYCHOLOGICAL DISTRESS AMONGST OLDER ADULT HOSPITAL
PATIENTS**

Thesis submitted by

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BA, BA Honours (Psychology)

In partial fulfillment of the requirements for the degree of

Master of Psychology (Clinical)

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Submission Date:

April 2000.

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DECLARATION

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

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

Signed: _____

(Fotini Zachariades)

Date: 26 / 09 / 00

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ABSTRACT

This study addresses the extent to which coping strategies can predict emotional status amongst a sample of older adult hospital patients in Perth, Western Australia. Older people are frequently in hospitals because of the large number of serious health problems that are more common in this age group. Older people vary in how well they deal with illness, and negative emotional reactions can complicate medical care. The emotional states of depression, anxiety and somatic complaints were assessed in a group of 120 older adults from two Perth hospitals. Two questionnaires were administered: the Depression, Anxiety and Somatic Complaints subscales from the Personality Assessment Inventory and the Coping With Health Injuries and Problems Scale. Hierarchical regression analyses were the main technique employed to analyse the data. Results indicate that Negative Emotion Coping was a consistent and statistically significant predictor of all three psychological distress variables ($p < .01$). Furthermore, it was found that the coping predictors contributed the greatest proportion of the variance towards firstly depression (36.8%), secondly anxiety (30%) and thirdly somatic complaints (25.1%). Therefore coping strategies predict depression, anxiety and somatic complaints nevertheless, an exploratory perspective is assumed in this study. Theoretical and practical implications are also discussed with regard to the interaction between physical and mental health status within the process of adjusting to illness, and various psychotherapeutic interventions addressing the psychological aspects of physical illness.

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CHAPTER ONE

INTRODUCTION

The field of health psychology has directed research interest towards the investigation of coping in connection with stress and the impact of these two factors upon health. The effects of stress and stressful life events on health status and the stress of dealing with health and injury-related problems form the particular focus of the present research. Developmental research with regard to coping has found that like personality traits, coping abilities or skills are relatively stable in adulthood through to older age. However, coping abilities appear to increase in flexibility as one ages and it has been proposed that this is due to the increasing complexity of one's coping repertoire as stressors are confronted across the lifespan. More effective coping skills are developed as one discovers which ones are the most functional in which contexts. Whether or not one has had previous health-related experiences or has experienced other stressful events could contribute significantly in terms of mediating illness outcome, adjustment and process of recovery. Coping strategies could be improved and their sophistication increased as a consequence of previous experience with health-related problems, or alternatively, more illness and health-related experiences could serve to further erode existing coping skills.

Illness that is sufficiently severe as to require hospitalisation is a highly stressful event. Personal injury or illness receives a value of 53 out of a possible

100 on the Social Readjustment Rating Scale, and is ranked as the sixth highest stressful life event (Holmes & Rahe, 1967). The psychological sequelae of illness and hospitalisation have not usually been studied in a systematic or explicit manner; thus further research is required within this area (Baum, Newman, Weinman, West, & McManus, 1997). This study can be grounded within the coping literature as providing preliminary evidence as to the types of coping strategies employed by older adults in the contexts of dealing with health-related stressors in the hospital setting. Stress would not only be caused by the life event of illness, but also by the meaning the individual attaches to this, and the particular type of coping reactions towards it. A person's coping style with regard to stress can serve to increase or decrease its impact (Craig, 1992).

Coping can be defined as cognitive and behavioural attempts to change, modify or regulate internal or external factors, which may be adaptive or maladaptive (Endler, Parker, & Summerfeldt, 1998). Lazarus and Folkman (1984) have distinguished between active, problem-focused coping, in which people attempt to change the situation directly, and passive, emotion-focused coping, in which people attempt to accept and manage their feelings (Wilson, O'Leary, & Nathan, 1992). It has been argued that there are age-related differences in coping, but that such differences are as a result of different stressors faced by younger versus older adults. Nevertheless, other research has found that age-related changes in coping styles do exist, in that younger adults tend to use more active problem-focused coping whereas older adults employ

more passive emotion-focused coping. Other research however, has concluded that there are no notable age-related coping style changes (Craig, 1992).

Research evidence strongly suggests that poor mental health predicts premature aging and physical health deterioration. Furthermore, good mental health is related to more effective coping with stress (Wilson et al., 1992). Previous research has reported an association with maladaptive coping strategies and psychological distress, and that these two factors are also related to less favourable illness outcomes (Costa & McCrae, 1987; Zeidner & Endler, 1996).

Various types of coping strategies have been associated with emotional status and psychological well-being (Aldwin, 1994). Furthermore, researchers have investigated coping behaviours and strategies characteristic for specific health problems. Research involving the Coping with Health Injuries and Problems Scale (CHIP) provides consistent and generalizable empirical support from various populations for the coping model assessed by the CHIP. The four CHIP coping dimensions are related theoretically to constructs considered to be important in general models of coping and health problems. The CHIP Instrumental Coping scale assesses a task-oriented approach to health problems, Distraction Coping assesses attempts to cope with a particular health problem by focusing attention on more pleasant experiences, engaging in unrelated activities or seeking the company of others, Palliative Coping assesses attempts to alleviate the unpleasantness of a health problem, and Emotional Preoccupation or Negative Emotion Coping assesses responses focusing on the emotional consequences of having a health problem (Endler et al., 1998).

Generally, this study examines how psychological factors interact with patient rehabilitation and recovery from illness or injury. Broadly, the impact that coping with health-related problems, has on mental health variables among medical patients will be studied. However, this study assumes an exploratory perspective. The relationship of demographic factors, age and type of illness to coping and psychological distress will also be explored. Specifically, the study's findings could add to the research evidence concerning the relationship between coping strategies and emotional status that are engaged in by older adult hospital in-patients. This is in line with research concerning the psychosocial concerns that accompany older adults' medical problems (Greene & Adelman, 1996). In general, theory and data on changes in coping resources and strategies over the adult lifespan have been relatively lacking. Empirical studies of the relations of coping and control with health in older adults are also relatively rare (Arbuckle, Pushkar, Chaikelson, & Andres, 1999). Furthermore, this study has practical implications from a clinical perspective in terms of the management of such clients. Various interventions can be applied within this context that address both physical and psychological aspects of coping with health-related problems.

Studies have already demonstrated that there is a relationship between psychological distress and coping strategies (Aldwin, 1994; Folkman, Lazarus, Pimley, & Novacek, 1987). The Personality Assessment Inventory (PAI) is an adult personality inventory designed to measure various clinical variables, including emotional status. This study employs the PAI to measure the variables

regarding emotional distress. These variables include three scales of the PAI that measure somatic complaints, anxiety and depression (Morey, 1991).

The Purpose of the Study

The aim of this study is to determine the amount of variance that specific coping strategies can predict with regard to the above three psychological factors, and whether coping factors serve as significant predictors of these psychological variables among older hospital in-patients who are confronting illness or injury-related problems.

CHAPTER TWO

LITERATURE AND RESEARCH REVIEW

The psychological reaction to any physical disorder involves a transitional process of adjustment which varies for each individual, but which can generally involve adjustment disorders, anxiety states and depressive symptoms, as these are considered to be common consequences of physical disease (Bishop, 1994). Physical illness has generally been related to an increase in levels of distress, negative affect, depression, and even suicidal behaviour. The subsequent restriction of activities creates an increased risk of further difficulties in adjustment and emotional disturbances (Baum et al., 1997). The experience of illness presents the person with a variety of challenges in terms of the physical effects as well as the consequent emotional and social problems. Anxiety, depression and denial are common reactions to the diagnosis of an illness; however they can hinder recovery and the process of adjustment to an illness (Lindsay & Powell, 1995).

The following review addresses various factors associated with the experience of physical illness of an older adult population within the context of hospitalisation. The psychosocial sequelae of physical illness are described with regard to the factors of the experience of hospitalisation, anxiety, stress, depression, somatization, hypochondriasis, personality traits, negative affectivity or neuroticism and impairment in activities of daily living (ADLs). Furthermore,

coping with and adjustment to illness, the process of recovery, illness outcomes and patient rehabilitation are discussed. Finally, the common medical conditions of stroke and hip fractures that are encountered amongst older hospital patients are briefly discussed.

The Experience of Hospitalisation Amongst Older Adults

Health promotion activities among older patients have been aimed at oncology, physical activity, nutrition, cognitive impairment, diabetes, injuries, incontinence and dehydration. Hospital use rates have consistently been higher among older adult patients as compared with younger patients (Levkoff, Berkman, Balsam, & Minaker, 1996). Comorbidity is common among older adult patients in terms of medical and psychiatric disorder, which includes concomitant impairments in social functioning, ADLs and behaviour. Treating the emotional concomitants of physically ill patients can improve quality of life (Rabins, 1998).

As many as 50% of adult patients have a psychosocial problem, and many have symptoms of depression (Greene & Adelman, 1996). Older patients however may not discuss psychosocial concerns with their doctors, even though they are at risk for depression and other psychological problems (Greene & Adelman, 1996). A patient's current illness behaviour, such as the frequency of consultation or multiple symptom patterns, can act as cues to the presence of emotional distress. Points such as these highlight the importance of addressing the psychological sequelae of physical illness amongst the older adult

population, and that the effects of such a stressor on this age group should not be underestimated. This becomes even more critical when such sequelae remain undetected, thus leading to potentially worse outcomes. In this way any potential positive health effects of preventive interventions are limited (Baum et al., 1997).

Comorbidity of patients' medical, psychological and social problems could make it difficult to identify each problem individually. Greene and Adelman (1996) noted that the most frequent psychosocial problems were depression and anxiety. It should be kept in mind though that depression is often a natural response to a medical illness or hospitalisation with the attendant loss of autonomy and function (Leigh & Reiser, 1992), and can be viewed as being part of a necessary adjustment phase (Broome & Llewelyn, 1995). The hospital environment can be highly anxiety-provoking as the patient is threatened with the loss of autonomy and possibly life itself (Leigh & Reiser, 1992). Therefore simply 'normalising' such feelings of anxiety and depression with older patients, that is discussing these feelings as being an appropriate reaction within the context of hospitalisation and illness, could be beneficial. Generally, functioning tends to improve after hospitalisation even for those with serious chronic morbidity in terms of depression decreasing, and physical function, well-being and daily activity increasing (Verbrugge, Reoma, & Gruber-Baldini, 1994). This implies that hospitalisation has beneficial effects not only on objective health status, but also on subjective health among this patient population, in terms of decreased depression and an improved sense of well-being (Verbrugge, Reoma,

& Gruber-Baldini, 1994). Improved psychological well-being could then in turn have a favourable influence on illness outcomes (Goreczny, 1995).

Anxiety, Stress and Physical Illness

Anxiety has been found to be associated with decreased health (Forsell & Winblad, 1998), and anxiety disorders have been found to be highly prevalent among older adults (Beekman et al., 1998). However, other studies (Krasucki, Howard, & Mann, 1998) of the prevalence of general anxiety disorder have indicated an age-related decline, and prevalence rates suggest that there is an attrition of cases of anxiety disorder across the lifespan. The Australian National Survey of Mental Health and Well-being of Adults indicated that the prevalence of mental disorder, including affective and anxiety disorders, generally decreases with age, declining from 27% among young adults to 6.1% among those aged 65 years and over (Australian Bureau of Statistics, 1997). Such an age-related decline could be due to factors that are not related to an actual decrease in the prevalence of anxiety. For instance older people could be less willing to disclose anxiety symptoms, due to believing that these were caused by physical illness, or they have more physical illnesses to which they attribute psychogenic symptoms can be attributed (Krasucki et al., 1998). Substance use disorders, which have a high comorbidity with anxiety and affective disorders were also found to decline linearly with age (Hall, Teesson, Lynskey, & Degenhardt, 1999), as was the prevalence of smoking. Smoking was strongly associated with the prevalence of affective, anxiety and substance use disorders which show an overall decrease in

prevalence with increased age. If the prevalence of smoking, substance use and common mental disorders is indeed lower in older people, this could imply that coping strategies change with age. However, such change could be due to ageing or to cohort differences in cross-sectional studies (Jorm, 1999).

Older patients in need of psychological help who consult their general practitioner could define their problems in physical terms, and thus anxiety in such patients may not be recognised. Although somatic anxiety is often mistakenly attributed to physical illness in older patients, there is a significant association between physical illness and anxiety disorders among this age group, as already noted, especially within clinical populations. Anxiety and fear are often related to a preoccupation with issues relating to physical health problems, such as chronic physical illness and fear of death (Radley, Redston, Bates, & Pontefract, 1997). Somatic disorders have been reported as risk factors for anxiety (Forsell & Winblad, 1998), although other research (Krasucki et al., 1998) has also found that somatic anxiety symptoms are quite rare among older adults. The World Health Organisation's (WHO) definition of health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity (Saracci, 1997). The Australian Health and Well-being Survey (Korten et al., 1998) has found that the predictors of general practitioner (GP) service use among older adults were related to both poorer physical and psychological health. Furthermore, there were significant differences in service use associated with gender. Increased GP visits were related to increasing

disability and anxiety among older women, whereas men with more current physical health symptoms visited their GPs more often (Korten et al., 1998).

Anxiety has been found to be higher during a patient's hospitalization and to decrease after discharge. However, the prospect of another episode of illness can provoke further anxiety. This has implications for coping mechanisms. Lindsay and Powell (1995) indicate that highly anxious patients show poorer recovery. Anxiety and fear of further physical damage could contribute significantly towards the perpetuation of pain, functional impairment and disability (Goreczny, 1995). Anxiety symptoms seem to be related to the expression and perpetuation of several specific diseases, such as peptic ulcer disease. Chronic activation of the sympathetic nervous system as a result of anxiety contributes to the development of atherosclerosis, cardiac arrhythmias, myocardial ischaemia and hypertension. Physiological stress responses can also create symptoms involving urinary incontinence, asthma, diabetes and dermatological conditions to be manifested (Rozensky, Sweet, & Tovian, 1997).

A positive association has been found between higher levels of anxiety and increased rates of stroke and ischaemic heart disease. Chronic symptoms of anxiety could potentially serve as a predisposition towards cardiovascular and cerebrovascular illness, and dementia (Krasucki et al., 1998). Suffering from a chronic illness is found to have a significant association with anxiety disorders, whereas physical decline is associated with anxiety disorders in later life (Beekman et al., 1998). Beekman et al. (1998) have also noted that anxiety disorders could interfere with well-being and daily functioning. One study

(Yardley, 1998) found that symptoms of autonomic arousal and fears of losing control were found to be the strongest predictors of handicap.

Roberto (1992) found that higher stress levels are predictive of lower ADL and poorer overall recovery. Older adults have been found to be more susceptible than others to adverse health effects after stressful major life events. If older persons experience more physical injuries in combination with fewer social and economic resources than other groups, they would be expected to exhibit a relatively high incidence of psychological sequelae (Phifer, 1990).

Anxiety disorders in older adults can be treated effectively by both pharmacological and psychological methods. Pharmacotherapy is still the more common form of treatment for anxiety (Radley et al., 1997), and this applies particularly to older adults. In contrast with drug treatments, psychological approaches to the treatment of anxiety among older adults have lower risk of negative side effects, however there has been little research to evaluate the effectiveness of such approaches with this age group (Radley et al., 1997).

Depression and Physical Illness

Research has found that as the level of depressive symptomatology increases, physical functioning and psychosocial recovery indices become less positive in terms of outcome. Illness levels have been found to be temporally related to increased levels of psychological distress and depressive symptomatology (Mossey, Mutran, Knott, & Craik, 1989). Feelings of

depression contribute to more adverse perceptions, and can aggravate problems resulting from health conditions, thus influencing recovery (Roberto, 1992).

Depression can sensitise people to physical symptoms and complaints (Affleck, Tennen, Urrows, & Higgins, 1992). Depression has been related to an increased frequency of psychosomatic symptoms, and a tendency to be preoccupied with minute somatic symptoms. Psychosomatic symptoms can serve to cover up or mask depression in some cases (Wolman, 1988). Depressed affect was positively associated with more pain and more medical diagnoses. Patients who feel sad report more illness-related memories and more symptoms when experiencing a minor illness (Affleck et al., 1992). Depressed mood makes a relatively large contribution towards functional disability, which can be reduced if coincidental depressive symptoms are alleviated (Hays, Saunders, Flint, Kaplan, & Blazer, 1997). If a person construes a physical disability as being due to global, stable and internal causes, then attributions could be formulated contributing towards a sense of helplessness which increases vulnerability to depression (Cohen-Mansfield & Taylor, 1998). The presence of hypochondriasis was found to be an important indicator of depression, and was found to be less prevalent amongst those without affective disorders (Bergmann, 1998).

Other research highlights the close connection between mood states and other physiological and psychological conditions. There is evidence to suggest that depression lowers immune system functioning, especially among older adults (Barlow & Durand, 1995). Depressive symptoms are common in

individuals with late life cognitive impairment, and this mood disorder is associated with significant morbidity (Rabins, 1998). Furthermore, age was related to objective physical health but not symptom reporting (Casten, Lawton, Winter, Kleban, & Sando, 1997).

Health problems can in turn lead to depression. Older adults have been found to report significant dysphoria, which they attribute to impaired health. Changes in health could be of particular concern to older adults as good health is consistently a top priority among this age group and is closely related to general well-being. Longitudinal data regarding health among this population illustrate the complications caused by the interaction of disease states with the ageing process. Chronic illness could be a factor contributing to increased psychological distress among some older adults (Emery, 1994).

65% to 85% of depressed older adults could identify a specific ailment that precipitated their depression (Wolfe, Morrow, & Fredrickson, 1996). The frequency with which physical illness and disability coexist with depression increases as age increases. Associations have been found between late life depression and diseases such as stroke, Parkinson's disease, respiratory disease and arthritis. Ill health and subsequent disability appear to be an important cause of depression in older age groups (Prince, 1998). Depression has the strongest association of other psychosocial factors with illness, and has been found to complicate the course of cerebrovascular stroke, multiple sclerosis, Parkinson's disease, epilepsy, myocardial infarction and renal disease (Rozenky et al., 1997). Physical ill health and disability are also important risk factors for

depressive symptoms in older adults (Broe et al., 1998). Surveys on the impact of specific disorders on depressive symptoms have found effects for a range of disorders including stroke, arthritis, gastrointestinal diseases, lung diseases and Parkinson's disease. Depression could be a risk factor for heart disease and lung diseases in general (Broe et al., 1998). Mastery skills, coping styles and social support were found to mediate the relationship between failing health and depressive symptoms (Wolfe et al., 1996).

Illness has other deleterious impacts on a person as well. Physical illness clearly has a negative effect on quality of life. Quality of life indicators were found to have the strongest association with gait slowing, which in turn increased levels of disability and depression, and decreased life satisfaction. Research has found that disorders affecting the joints and limbs and the neurodegenerative disorders have the greatest impact on disability. Heart disease and chronic lung disease were also found to have effects on disability and depressive symptoms. Chronic disorders cause disability, which subsequently leads to increased depression and reduced life satisfaction or quality of life (Broe et al., 1998).

Increased depression has been associated with illness severity, amount of pain, extent of disability and degree of physical impairment. As with anxiety, depression also hinders rehabilitation and recovery (Lindsay & Powell, 1995). Research has found that levels of depression increase among patients during the post-discharge period, and that depression is associated with poor outcomes on measures of physical symptoms, coping and quality of marriage. Apathy is

associated with major depression and reduced ability in activities of daily living (Baum et al., 1997). Some researchers have postulated that depression can be manifested as chronic pain, and patients who manifest a low functional activity level are more likely to be depressed (Goreczny, 1995).

Serious illness has been strongly associated with depressive illness ($p < 0.0001$). Disability was related to both depression ($p < 0.00001$) and anxiety ($p < 0.0005$), and having another serious illness was associated with depression ($p < 0.003$) (Bond et al., 1998). Research indicates a close relationship between anxiety and depression (Krasucki et al., 1998). Depression was over-represented among those with anxiety feelings (Forsell & Winblad, 1998), while fear of illness and losing control were also correlated with anxiety and depression (Yardley, 1998). Anxiety and depression both increase pain intensity (Moosbrugger & Schermelleh-Engel, 1991), and this effect becomes more salient when applied to the older hospital patient (Bond et al., 1998; Mostofsky & Lomranz, 1997).

Assessment of depression among older adults is complicated by lack of inclusion of the characteristics of depression in later life such as increased somatic complaints, in many assessment tools. Depressive disorders can be particularly difficult to detect in the presence of chronic disease and less reliance can be placed on biological symptoms of depression (Ward & Higgs, 1998). Depressive symptoms could resemble those of the illness, or be manifested as pain syndromes, hypochondriasis or agitation (Gray, Woodward, Scholes, & Fonda, 1991). Hypochondriasis has been associated with both anxiety and

depression (Wolman, 1988), and has been found to be a significant indicator of both depression and of real physical disease (Burns, 1998). Somatization thus serves to complicate the presenting picture, and various factors are related to a somatic rather than psychological presentation such as less depressed mood, previous in-patient medical care and somatic attributional style (Baum et al., 1997). Somatization refers to displaying a pattern of recurrent, long-standing somatic symptoms with patients consulting one doctor after another without finding any pathophysiological basis, whereas hypochondriasis refers to the anxiety of having, or the belief that one has, a serious physical illness despite contrary medical evaluations (Wilson, O'Leary, & Nathan, 1992).

Personality Traits, Negative Affect (NA) and Physical Illness

The distinction between adaptive and maladaptive somatic attention could depend on whether someone who is concerned about illness pays attention to physical sensations, which could increase subjective distress or create hypochondriacal health concerns (Cioffi & Holloway, 1993). The experience of illness could increase the frequency of concern about one's body. If depression is also present, this could exacerbate existing physical aches and pains (Birren & Schaie, 1990). Pain is more intensely experienced and has more debilitating affective and functional consequences among individuals high in hypochondriasis (Mostofsky & Lomranz, 1997). Hypochondriasis is highly correlated with somatosensory amplification, which is the tendency to experience bodily sensations as unusually intense, aversive and distressing.

Hypochondriacal patients exhibit a marked fear of death and dying, and are especially concerned about their physical appearance (Wilson et al., 1992).

Symptom reporting could increase if symptoms are made more prominent by having people think more about their health. Physical complaints could also be used as a manner of dealing with psychological distress. Specifically, people who find difficulty in directly expressing emotional distress could complain of physical symptoms as a way of receiving help with feelings of loneliness or other distress. The tendency to overreport and seek help for physical complaints is closely associated with neuroticism as a personality trait (Bishop, 1994).

Attempts to identify specific personality types related to different disabilities have found increased isolation, pessimism, alienation and self-centredness amongst those with a disability as compared to those with no disability (Broome & Llewelyn, 1995). A meta-analytic study indicated associations between the personality variables of anxiety, depression, anger/hostility and extraversion with different diseases. Those with higher levels of depression and anxiety had a much higher risk for developing a disease. Such research implies the possibility of a generic “disease-prone personality” by which those who are inclined to experience negative emotions are more susceptible to disease. However, symptom reporting could also increase if symptoms are made more prominent by having people think more about their health (Bishop, 1994).

Research has found higher rates of personality disorder symptoms, particularly in the anxious-fearful DSM cluster C (DSM-IV, American

Psychiatric Association, 1997), to be associated with depression (Bergmann, 1998). A slight increase in anxious personality disorder cluster traits has been reported after the age of 60 (Wijeratne, 1998). Others report that ageing has little effect on personality, despite the fact that the normal ageing course may include such things as disease, bereavement and unemployment (Costa & McCrae, 1988).

Neuroticism or negative affect (NA) was found to be unrelated to disability levels among older persons. Negative associations have been found between neuroticism and mobility levels, but there was a stronger association with the affective domains of health, while mastery and self-efficacy expectancies are more strongly related to functional domains of health (Kempen, van Sonderen, & Ormel, 1999). NA is associated with poor health, especially with symptomatology and self-appraisals of global health. Previous research has indicated possible age differences in relationships between affect and health, in that the association was stronger among younger as compared to older men (Casten et al., 1997).

Individuals prone to negative affectivity, which refers to a general disposition to experience negative emotions such as anger, disgust, guilt and depression, are more sensitive to physical discomforts than those who are less inclined towards such negative states (Bishop, 1994). Individuals high in neuroticism could be more physiologically reactive to noxious stimuli such as physical discomfort and could direct more attention and anxiety towards physical symptoms (Lauver & Johnson, 1997). Neuroticism predicts both higher

daily reports of illness symptoms and subsequent accuracy with which symptoms are recalled. High-N individuals have a tendency to report more somatic complaints even in the absence of more objective illness markers. Such individuals focus more attention on bodily sensations as a consequence of a hypervigilant, ruminative or introspective cognitive style. High-N individuals are likely to amplify physical symptoms, experience chronically distressing emotions and report more somatic complaints (Affleck et al., 1992). A high correlation has been found between neuroticism and illness occurrence, and depression, anger, hostility and anxiety are related to a number of diseases such as arthritis and asthma (Casten et al., 1997). Neurotic reactions also seem to be more closely related to some diseases such as cardiovascular disease (Bergmann, 1998).

Impairment in Activities of Daily Living (ADLs) and Physical Illness

Research has indicated that poor mental health status indicators are predictors of decreased physical functioning. Poor physical and mental health and gait problems are among the more significant risk factors for functional decline in older adults (Stalenhoef, Diederiks, de Witte, Schiricke, & Crebolder, 1999). Factors predicting functional dependence include poor health and emotional status, and multiple physical and psychological impairments (Yardley, 1998). Impairment in activities of daily living (ADLs) has in turn been consistently found to be a more powerful predictor of depression in older adults than social support (Oxman & Hull, 1997). Functional status has a positive

effect on rehospitalisation and is predictive of successful rehabilitation (Kiel, Eichorn, Intrator, Silliman, & Mor, 1994).

Activity restriction can lead to further reduced health and physical functioning (Lachman et al., 1998). Functional disability is associated with increased levels of depression and anxiety symptoms. Other research has found that patients with more functional impairment are more likely to exhibit psychological distress (Ward & Higgs, 1998). Higher levels of physical performance were found among older patients who reported better self-rated health and fewer chronic conditions, especially those related to cardiovascular status (Seeman et al., 1994). Opportunities for functional recovery are greatest when there is just one chronic condition (Verbrugge et al., 1994). Furthermore, performance declines were also associated with relative lack of economic resources, worse health status profiles and incident health conditions and re-hospitalisation during follow-up (Seeman et al., 1994).

The presence of disability or illness can lead to impairment in activities of daily living, which would then lead to even further physical decline (Mostofsky & Lomranz, 1997). The presenting picture is complicated by differentiating between, for example, physical illness and depression as causing the restriction in ADL (Squires, 1996). Chronically ill patients experience more depression and anxiety, which are also related to functional disability. Thus patients with more functional impairment are more likely to exhibit psychological distress compared to those with less impairment (Ward & Higgs, 1998), and thus to experience a positive feedback cycle of increasing distress and impairment.

Coping Theories

General

Stress can be caused not only by major events in life, but also by minor daily upsets, often called hassles. Amongst older adults, it was found that hassles were more strongly related to distress than were major life events (Folkman et al., 1987). A number of studies report a relation between coping and psychological well-being (Aldwin, 1994; Barlow & Durand, 1995; Endler, Parker, & Summerfeldt, 1998; Zeidner & Endler 1996), and that the ways in which older adults cope with stress make a big difference in not only survival but also well-being (Folkman et al., 1987). Age-related changes in coping can be conceptualised in three ways:

- (1) the developmental interpretation proposes that there are inherent changes in the ways people cope as they age. People may regress and become more primitive in their coping behaviours as they grow older and employ regressive forms of coping, such as greater use of confrontive coping and escape-avoidance; or may employ more mature coping strategies such as problem-solving, distancing and positive reappraisal (Folkman et al., 1987).
- (2) the contextual approach contends that age differences in coping are the result of changes in what people must cope with as they age. Older people experience more stressful encounters related to health than do younger people, but that within encounters that were health-related, older and younger people did not differ in their relative use of problem- and emotion-focused

coping. It was found that age differences in coping seem to be a function of the different types of stress (losses, threats and challenges) associated with ageing rather than age per se. Older people were generally less inclined than younger people to rely on hostile reaction and escapist fantasy (Folkman et al., 1987).

- (3) the interactionist approach involves an interaction between age and gender in that older men are presumed to become more passive than younger men, while the opposite pattern should hold true for women. Research has shown that men use more self-control in keeping one's feelings to oneself, than do women, and women use more positive reappraisal than did men (Folkman et al., 1987).

Coping research has either emphasised predisposing variables (traits) or situational factors (coping as a process). The interindividual approach to coping aims to identify basic coping styles or habitual coping strategies used by particular individuals across different types of stressful situations. The intraindividual approach investigates basic coping behaviours or strategies employed by individuals in specific types of stressful or upsetting situations. The latter approach is based on the premise that individuals have a repertoire of coping options available to them from which they can build what they believe to be the most effective strategy depending on the nature of the situation (Holahan, Moos, & Schaefer, 1996).

Adaptation as coping

Interest in linking coping style and health problems is part of a long tradition in the field of health psychology. Recently, much of this research regarding health and coping has used a situational approach towards coping (Endler et al., 1998). According to a phenomenological-situationalist view of adapting to stress, age could affect stress appraisal and thus the choice of coping strategies, but ageing is not considered a major determinant of adaptation behaviour or coping effectiveness (Parker & Endler, 1996).

Another situationalist perspective contends that coping changes little during adulthood. Patients of all ages were found to favour the use of confrontation over avoidance and acceptance-resignation (Strack & Feifel, 1996). In the initial period after a health crisis, avoidant coping forms such as denial can be adaptive, but can be detrimental in the longer term (Holahan et al., 1996).

Changes in coping processes that occur with increasing age can also be viewed as an adaptive response to dealing with stressors. Older adults were found to use problem-focused coping more than emotion-focused coping in stressful situations perceived as controllable and vice versa if they were perceived as uncontrollable (Strack & Feifel, 1996). Furthermore, older adults were found to employ information-seeking, emotional expression and self-blame less often in comparison to their younger counterparts in the context of managing their illnesses (Holahan et al., 1996).

Health and well-being can be viewed as depending upon personal resources which aid coping and if lost, increase one's vulnerability to stress (Thomas, 1999). Adaptation to new circumstances such as those of illness is impeded when physical, social and emotional resources for coping are already reduced by the illness. In such cases, more primitive coping strategies such as denial or ignoring the problem may be used, instead of problem-orientated or information-seeking strategies, which could reduce stress and enhance adaptation (Baum et al., 1997).

For those experiencing physical disability, adjustment can be influenced by premorbid coping skills and by the premorbid emotional status. Symptoms of anxiety and depression can occur in response to symptom onset, but these can also have preceded the illness diagnosis. Different coping strategies can be used to address different aspects of the illness, and such strategies vary depending on disease and treatment parameters (Broome & Llewelyn, 1995). In coping with illness, some illness-related tasks that need to be adapted to are dealing with pain, incapacitation and other symptoms, dealing with the hospital environment and treatment procedures and developing and maintaining adequate relationships with health-care providers. More general coping tasks involve maintaining a reasonable emotional balance, preserving a satisfactory self-image, sense of competence and mastery, preserving social relationships and preparing for an uncertain future (Bishop, 1994). Repeated hospitalisations or brief periods of hospitalisation could be triggering factors for the emergence of harmful and maladaptive coping strategies. For example, anosognosia, which has been

described as a form of denial, could be a maladaptive coping reaction for the protection of self-image, which can in turn interfere with rehabilitation (Baum et al., 1997).

It is still possible, however, to counteract the potential negative effects of increasing debility if patients are habituated to symptoms and are enabled to develop means by which to deal with such symptoms (Broome & Llewelyn, 1995). The adaptation process involves an emotional as well as a cognitive component in terms of how the individual thinks about the disease (Bishop, 1994). Age in itself does not appear to have a deleterious effect on the ability to cope with the stress of illness (Baum et al., 1997). Among those with illnesses or disability, depression and other psychological distress were found to be more common in younger people, perhaps implying that older people could have more experience in developing effective coping skills. Furthermore, those who have had an illness or disability for a longer period of time seem to cope better with it. Naturally, the more severe the disease, the more difficult would be the emotional adaptation required towards it (Bishop, 1994).

Healthy, adaptive individuals do not adhere to a rigid and narrow coping pattern but rather display a mature dynamism in actively matching the appraisal with selected coping responses. Adaptive functions result from this flexible matching between perceived controllability of the event and the corresponding coping reactions (Moos & Shaefer, 1993). Previous research has found that in patients in terminal cancer wards, where active control over the disease process is realistically limited (Fogg, Kahut, & Gayton, 1977), an acceptance of one's

fate seems to facilitate a focusing of energy on activities that help make them feel better and subsequently live longer. Better-adjusted patients did not stop at accepting their fate but actively employed a combination of different beliefs and strategies to deal with other aspects of their life. This same active management was also encountered in the better-adapted elderly (Hanes & Wild, 1977).

Personality and coping

Variables such as personality characteristics and psychological status influence recovery levels, however the interrelationship between psychosocial variables and how they influence the recovery process is poorly understood (Roberto, 1992). Psychological and social factors accompanying later life could influence the aetiology, course and prognosis of a patient's disease (Greene & Adelman, 1996). As a result, changes can occur in an older adult's stress level, and consequently adjustment, functional capacity, outcome and prognosis can be affected (Roberto, 1992). Personality characteristics, social integration and subjective well-being indicators have been implicated as predictors of mortality (Maier & Smith, 1999). One relevant personality characteristic is locus of control. Patients' perceptions about control would influence whether they would engage in such activities as self-care and gathering of information (Beisecker, 1996). Older patients have a higher physical health locus of control and fate locus of control, and thus a lower sense of self-efficacy and less desire for health-related information and control. Patients with osteoarthritis who felt less

in control of their illness felt less negative about performing treatment activities (Glasgow & Hampson, 1995).

The concept of coping is relevant to individual differences in response to stressful situations since even among those who appraise a situation as stressful, stress effects could vary depending on how the individual copes with the event (Davison & Neale, 1998). Thus the importance of individual differences in characteristics such as neuroticism, mastery and self-efficacy expectations to health outcomes after stressful situations needs to be considered. Such psychological resources can be regarded as psychological resilience indicators and are thus important elements within the coping process in the context of health problems. The stress and coping paradigm suggests that high levels of psychological resources could protect against the progression of disability over time (Kempen et al., 1999). Supportive evidence of this is found in that the use of catastrophising coping strategies that seem to tap depressive and helplessness cognitions, and that predict depression and disability (Affleck et al., 1992; Matthews & Wells, 1996).

Other researchers have found that helpless and pessimistic cognitive styles have a negative impact on physical health, whereas optimistic cognitive styles have a positive impact (Barlow & Durand, 1995; Matthews & Wells, 1996). Dispositional optimism (one's tendency to be optimistic) has been found to be related with a quicker recovery from surgery and better adjustment after surgery (Barlow & Durand, 1995). Emotional suppression and alexithymia (difficulty in describing feelings and a tendency to turn attention to external events rather than

inner feelings) have been found to be related to maladaptive coping and illness. Emotionality on the other hand has also been reported to increase a person's risk for illness, since individuals with this trait have higher anxiety and report more stressful events. Therefore traits such as alexithymia and emotionality tend to burden existing coping mechanisms (Cloninger, 1996).

McCrae (1984) conceptualised coping ability as a personality trait, and the higher levels of this that people possess, the more their resistance to illness would be increased. Personality also influences how people interpret the meaning of an event and whether a healthy lifestyle is pursued. The traits of hardiness (characterised by control, commitment and challenge) and optimism, a sense of self-efficacy, and an internal locus of control have all been suggested to provide stress buffering effects (Cloninger, 1996). For example, self-efficacy directly affects autonomic nervous and immune system responses (Wilson et al., 1992). Inhibited power motivation, characterised by a greater need for power than for affiliation and a high level of self-restraint and passivity, have also been suggested as person variables affecting reactions to stress, and thus consequently also one's health (Wilson et al., 1992).

Coping as a Reaction to Illness

The study of the relationship between coping and health has evolved into one of the most popular topics in the field of coping. Coping has been conceptualised as part of the interaction of psychological, environmental and biological factors influencing health and well-being (Phifer, 1990; Zeidner &

Saklofske, 1996). Coping outcomes can thus evidently be psychological, social and physical (Aldwin, 1994; Parker & Endler, 1996). In the case of physical illness, it becomes necessary to face certain adaptive tasks, such as following medical regimens, maintaining emotional stability and establishing workable relationships with medical personnel. Individual differences in the course of illness could be due in part to how successfully individuals are coping with such adaptive tasks (Aldwin, 1994). Patient beliefs about their illness can play a major role in influencing adjustment towards the illness in the longer term, and adjustment is affected by the evaluation, perception and reaction to the illness (Lindsay & Powell, 1995).

There has been a tendency to utilise three general coping and health models. The first model contends that coping strategies or behaviours directly affect specific health variables (for example, blood pressure, recovery rate) (Holahan et al., 1996). That coping behaviour affects somatic health can be directly demonstrated in that negative emotions can result in damaging hormonal secretion patterns that harm tissues, do not promote the warding off of disease and slow down recovery. Thus the coping process appears to be inextricably linked to emotional and physical health maintenance (Wolman, 1988). The second model proposes that coping behaviours indirectly effect health by producing a change in some health-related behaviour (for example maintenance of regular contact with health professionals). The third model suggests that coping strategies moderate or buffer stress generated by a specific health

problem. Both situational and stylistic variables have been found to play roles in specific coping responses (Zeidner & Saklofske, 1996).

Factors such as age, educational background and personality traits play a role in the process of coping with illness, as do factors related to the illness, such as stage, physical characteristics and symptomatology (Baum et al., 1997; Strack & Feifel, 1996). Patients can thus apply various coping responses to different illness-related problems. Coping responses can be adaptive or maladaptive, contingent upon the situation. For example, some emotion-focused strategies appear to be beneficial across illnesses, whereas others, such as disengaging, seem to increase distress and disability (Baum et al., 1997).

Coping strategies could both hinder and promote health-related behaviours. Research evidence suggests that adjustment to and recovery from health problems are related to coping. As a coping strategy in the context of health problems, denial can have many negative effects, such as not noticing variations in symptoms that could be meaningful if reported to health professionals, avoiding treatment and not following through with treatment regimens or rehabilitation programs. However, denial has been found to be adaptive when one is first diagnosed with a serious or chronic disease. Denial of the implications of the illness and avoidance of the inevitable emotional reactions of anxiety and depression that accompany the notification could help the patient get through this period more easily, and then later develop more effective coping responses (Barlow & Durand, 1995).

Further research on coping and health problems indicates a variety of key variables influencing the choice of adaptive or maladaptive coping behaviours and outcomes, including hardiness, psychiatric factors, appraisal of the illness as changeable or acceptance of the illness. Causal attribution, whether internal or external, has been related to a more positive physical and psychological outcome, but blaming someone else has been shown to be consistently maladaptive. This can be related to the belief in the controllability of one's illness, which has been associated to better psychological adjustment compared to the lack of such belief. The role of health-related cognitions however, is limited by the physical realities of the disease (Lindsay & Powell, 1995).

Many health studies demonstrate the effectiveness of information-seeking and problem-focused coping as opposed to emotion-focused and avoidance coping (Parker & Endler, 1996). Some research has found no relation between health and coping strategies, while other studies have reported findings that health is positively predicted by active coping and by cognitive restructuring of the stressful situation and negatively predicted by strategies involving avoidance of the stressor. Better health in old age is associated with greater use of strategies that involve cognitive restructuring, lesser use of strategies that avoid dealing with the problem and a stronger sense of personal control. Resilient individuals become more skilled and competent as a consequence of successfully coping with stress which subsequently reduces the impact of further stressors, while those experiencing failure in dealing with stress become more vulnerable to future negative effects of stress on health and well-being. One study found that

coping strategies were related to health but coping resources were not (Arbuckle et al., 1999). Nevertheless, effective illness management could be related to the identification of which strategies facilitate optimal recovery at which stages of the disease, and for which particular patients. Such information can then be appropriated to assist patients in the process of developing effective coping (Lindsay & Powell, 1995).

Coping with Chronic Illness

80% of older adults have at least one chronic health condition (Segal, 1996). Common health problems among this age group are arthritis, hypertension, hearing impairment, heart disease, cataracts, orthopaedic impairment, chronic sinusitis, diabetes mellitus, visual impairment and tinnitus (Segal, 1996).

The magnitude of the effects that medical illness has on self-reported psychological distress is comparable to other stressful life events among older adults, such as bereavement or financial loss (Phifer, 1990). Loss issues appear to be a significant factor for adults coping with chronic illness (Ward & Higgs, 1998). Depression and anxiety present amongst disabled older adults can interfere with participation in rehabilitation programs (Mosqueda, 1996). Nevertheless, research has found that older adults could also be relatively resilient due to a higher incidence of past resolved stressful experiences and a lower incidence of current unresolved stressful experiences. Having a history of coping with prior crises creates a repertoire of coping responses required to

adapt successfully to current crises (Phifer, 1990). Previous experience would then play an important role in the rehabilitation process. Having had a major illness or injury in the past could provide learned coping strategies that minimise the impact of current injury or health-related problems (Borkan & Quirk, 1992). Thus whether or not one has had previous health-related experiences could contribute significantly in terms of mediating illness outcome, adjustment and process of recovery (Roberto, 1992).

Chronic illness produces coping strategies which can be cognitive or behavioural. Cognitive strategies control emotional responses including denial, minimisation and partialisation, while behavioural strategies such as seeking information about the illness, learning to control symptoms and planning for the short and long term are those which change the situation (Ward & Higgs, 1998).

Somatic concerns could lead to a focus on bodily symptoms such that any reduction in discomfort occurring over time is readily noticed, thus providing an opportunity to experience relief. Such an outcome would be less likely with avoidant coping strategies. Avoidant coping strategies are usually characterised by discomfort, perceived coping inefficacy and anticipatory anxiety. An avoidant approach towards a stressor prevents habituation to it and ensures continued physiological reactivity. Thus avoidant strategies can contribute to or maintain maladaptive somatic coping (Cioffi & Holloway, 1993). In contrast, cognitive restructuring has been associated with better self-rated health, and involves cognitive reinterpretation of a situation to give it a more positive

meaning. Empirical evidence indicates that there has been a shift towards greater use of cognitive restructuring among older adults (Arbuckle et al., 1999).

Types of Coping Strategies

The coping methods distinguished by Lazarus and Folkman (1984), that is, problem-focused and emotion-focused coping, will be more fully addressed in the following section. Various types of coping methods have been identified within the coping literature. Coping strategies are assumed to affect health by moderating the impact of stressful life experiences, and refer to the ways in which different individuals respond to stressors that tax adaptational capacity. Research findings with regard to whether problem-focused strategies are actually more beneficial for well-being than emotion-focused strategies have found that some variants of emotion-focused strategies could be dysfunctional across a range of situations (Arbuckle et al., 1999).

Problem-focused, emotion-focused and avoidant coping

The problem-focused coping dimension involves strategies attempting to solve, reconceptualize or minimise the effects of a stressful situation, and can involve instrumental action (Cloninger, 1996). Task-focused (or problem-focused) coping refers to active efforts to change the external situation (for example by formulating and implementing a plan of action), and can be instrumental, cognitive or behavioural (Lazarus & Folkman, 1984). The emotion-focused coping dimension involves strategies related to self-

preoccupation, fantasy or other conscious activities that regulate affect, and seeking social support (Pierce, Sarason, & Sarason, 1996). Emotion-focused coping involves attempts to change one's cognitive and emotional reactions, without directly influencing external reality (such as by accepting blame or trying to learn something from the encounter) (Lazarus & Folkman, 1984). Avoidance is the strategy of trying not to think about the event often through self-distraction. Avoidance-oriented coping could involve social diversion (seeking out other people) or engaging in a substitute task (distraction) (Zeidner & Saklofske, 1996). Furthermore, delay as a form of avoidant coping can occur in the context of dealing with health problems, and can take place in three phases: appraisal delay (time taken to interpret a symptom as a sign of illness), illness delay (time taken from a patient's decision that they are ill to the decision to seek medical care) and utilisation delay (time from deciding to seek care to actually obtaining medical help) (Lindsay & Powell, 1995).

The broad trend is for both depression and anxiety to relate to increased emotion-focus and avoidance, and reduced task-focus. Neurotic personality is associated with a similar pattern of coping (Parker & Endler, 1996), in that high-N individuals are likely to employ ineffective emotion-focused coping strategies for dealing with stressors, such as wishful thinking or self-blame (Affleck et al., 1992). Approach-oriented coping was positively associated, and avoidance coping negatively associated, to ensuing quality of life among cardiac surgery patients in recovery. Among cancer patients, positive reinterpretations are related to less emotional distress and escape-avoidance with more distress

(Holahan et al., 1996). In rheumatoid arthritis patients, information-seeking predicted increased positive affect, while wish-fulfilling fantasy and self-blame predicted decreased positive affect. It was found that a majority of heart attack patients develop new health-related coping skills as a result of this life crisis (Zeidner & Saklofske, 1996).

Adaptive coping strategies for pain include behavioural attempts to relieve pain and cognitive processes such as reinterpreting or ignoring pain sensations, distraction and the self-statements regarding one's efficacy to manage pain (Affleck et al., 1992). Patients who have high perceived competence with regard to coping with pain have lower levels of depression. Those patients suffering from a chronic illness who are self-confident in their coping abilities to reduce pain do not appear to suffer as strongly as those who doubt their coping abilities and have less experience with chronic illness (Moosbrugger & Schermelleh-Engel, 1991).

Coping with Common Medical Conditions found among Older Hospital Patients: Hip Fractures and Stroke

Coping, age and health problems

Age differences in coping are apparent: younger people were found to use proportionately more active, interpersonal, problem-focused forms of coping than did older people, who in contrast, used proportionately more passive, intrapersonal emotion-focused coping forms (Folkman et al., 1987). The coping

patterns of older people seem to be appropriate to their life stage, as this group appraised their stressors as being less changeable. Assuming that these appraisals are realistic, specifically with regard to health problems, then such coping patterns would be apparently adaptive. Emotion-focused coping in this context seems to inhibit the stress process thus neutralising potential hassles (Folkman et al., 1987) that could be encountered in the process of coping with health stressors. Generally, older adults have a higher likelihood of facing situations involving health problems over which they have little control. Consequently, coping activities would probably be focused on regulating emotion rather than action on the environment (Heckhausen & Schulz, 1995). This is also reflected in that older adults have been found to engage in more cognitive restructuring and fewer behavioural forms of coping (Arbuckle et al., 1999). Given the inevitability of age-related declines in health, function and social involvement, this would indicate the difficulty of implementing problem-focused coping, and the utility of engaging in emotion-focused coping. Acceptance of one's lot in life could be a factor associated with emotion-focused coping, and could thus play a role in the maintenance of well-being with ageing (Ranzijn & Luszcz, 1999). Furthermore, religious coping was identified as an effective means for dealing with challenges confronted in old age (Heckhausen & Schulz, 1995).

Age could have an indirect effect on coping strategies through the increase in health problems associated with ageing. Health and loss problems are more likely to evoke palliative or emotion-focused coping than instrumental action.

Through previous experiences people could increase their coping repertoires thus facilitating more successful coping with difficulties (Aldwin, 1994).

Previous sickness episodes would give rise to certain expectations regarding the process of rehabilitation, and attitudes, beliefs and cognitive states would also affect the course of disease and rehabilitation (Borkan & Quirk, 1992). At the same time, cognitive impairment among older adults could reduce one's ability to cope with pain and thus increase susceptibility to depression for example (Cohen-Mansfield & Taylor, 1998).

Coping is also influenced by coping needs and coping resources. Coping needs result from decrements in abilities occurring naturally in the ageing process and the deterioration of some skills through lack of use. Examples of coping needs include survival skills that enable adequate functioning, ability to engage in satisfactory social interactions and skills for daily functioning (Kelly, 1993). Coping needs can be mitigated or satisfied via mobilisation of coping resources. Coping resources can be in a tangible or intangible form. Such resources are subject to fluctuations, and their prolonged use due to a need for help over a long period could deplete these resources, which could be the case with regard to a chronic illness. Family, friends and shared living quarters could be regarded as coping resources (Pierce, Sarason, & Sarason, 1996), and networks of family helpers are more extensive for married than for unmarried persons since the former could receive help from a spouse alone or in combination with children and others. The most important coping resources can be attributed to different combinations of helpers across marital status and living

arrangements (Boaz & Hu, 1997). Nonmarried persons were found to have poorer health, while those with more social contacts had better health and functioning (Verbrugge et al., 1994).

Hip fractures and falls

Osteoporosis, accidents and falls are major causes of injury among older adults (Davis, 1994). Two index conditions leading to the need for rehabilitation for older people are stroke and fractures of the neck of the femur (Young, Robinson, & Dickinson, 1998). Research has indicated that recent hospitalisations for stroke or hip fracture are strongly predictive of nursing home admissions (Temkin-Greener & Meiners, 1995). Those with hip fractures tend to have a number of other health problems that would put them at increased risk of mortality even if they did not have a hip fracture (Katelaris & Cumming, 1996). Intrinsic factors seem to play a larger role than extrinsic factors with regard to the circumstances of falls that result in hip fractures among older adults (Norton, Campbell, Lee-Joe, Robinson, & Butler, 1997). Hip fractures are associated with a high prevalence of post-fracture elevated levels of depressive symptoms (Mossey et al., 1989). It has been estimated that over 50% of fracture patients experience depression (Mast, MacNeill, & Lichtenberg, 1999).

Cognition and affect can influence the course of rehabilitation after hip fracture. Poorer recovery and higher mortality rates have been associated with high post-surgery depression scores, cognitive impairment and external attribution of control. Expectations appear to be modified in response to

perceived progress and communications from health professionals. Patients with greater expectations for recovery and greater previous experience are likely to recover ambulation more rapidly (Borkan & Quirk, 1992).

Having had a major previous illness or injury could provide learned coping mechanisms which assist in minimising the hip fracture impact (Borkan & Quirk, 1992). Those with hip fractures who rely primarily on emotional-focused strategies (that is cognitive and behavioural efforts aimed at decreasing emotional distress) report lower levels of functional recovery (Roberto, 1992).

Stroke

Stroke is currently one of the leading causes of serious long-term disability. Only 10% of stroke survivors experience a near-complete recovery (Lucas, 1999). Among stroke patients, depression can be a significant obstacle in rehabilitation (Baum et al., 1997). Mood disorders and emotionality appear to affect stroke survivors (Bond et al., 1998). Clinical depression occurs in 47% of patients immediately following stroke during hospitalisation, and increases to 60% of patients at 6-month follow-up. An association has also been reported between poststroke depression and anxiety (Frazer, Leicht, & Baker, 1996), and between few social contacts and depression (Shimoda & Robinson, 1998). Poststroke depression has a negative impact on cognitive impairment, physical recovery following stroke, social activities and even survival (Shimoda & Robinson, 1998). Depression may go undetected among stroke survivors, particularly since patients may not offer complaints of lowered mood. The

presence of aprosody (a disorder of speech) and vegetative symptoms however, could suggest the presence of depression. Stroke survivors are also likely to experience feelings of helplessness, frustration, irritability and emotional lability. The identification and treatment of such problems would increase a patient's chances for a successful outcome following rehabilitation (Lucas, 1999).

Depression or impairment in social functioning occurring during the acute stroke period have been found to independently influence the course of recovery on physical or cognitive function during the first three to six months following the stroke. However, only depression was found to influence recovery from physical impairment during one to two years follow-up. High levels of social support were associated with faster and more extensive recovery of functional status after stroke (Shimoda & Robinson, 1998).

Stroke has been found to account for 31% of admissions to rehabilitation hospitals, and persons with stroke have the highest annual charges for outpatient rehabilitation of any patient group (Hoenig, Horner, Duncan, Clipp, & Hamilton, 1999). A client-centred approach towards stroke rehabilitation has been found effective in that it addresses individual client needs and promotes the client's active involvement in their own rehabilitation process (Quigley, Wallace-Smith, & Strugar, 1998). Client-centred care in conjunction with the use of clinical pathways which focus on outcomes at predetermined intervals has been found to be effectively applied to clients undergoing stroke rehabilitation (Quigley et al., 1998). Another apparently effective model in the context of stroke rehabilitation

in particular, and patient rehabilitation in general, is the framework of structure, process and outcome (SPO) (Hoenig et al., 1999). By describing rehabilitation along all these three axes, a more complete picture of treatment can be established. The structural elements involved, the processes employed to carry out the treatment, and the specific aspects of the disablement process that are targeted can be individually identified and targeted for interventions (Hoenig et al., 1999). Interventions other than rehabilitation that can be implemented include analgesia, antispastic medication, adapting the house environment and teaching carers how to help safely and effectively (Wade, 1999).

Organised in-patient stroke unit care has been found to improve long-term survival, functional state and quality of life. Stroke unit care would thus seem to set a good foundation for the development of the rehabilitation process. Improved outcomes for stroke appear to be related to early resource mobilisation and rehabilitation, and aggressive measures to prevent, identify and treat medical and psychological complications (Lucas, 1999). Specifically targeted rehabilitation therapy such as focused on improving leg function or arm function has been shown to be efficacious (Wade, 1999). It is still inconclusive as to whether therapy aimed at reducing impairment is more or less effective than therapy aimed at improving function. Nevertheless, research so far provides support for a task-oriented therapeutic approach (Wade, 1999).

Failure to rehabilitate could thus be based on cognitive and psychological predispositions (Borkan & Quirk, 1992). The importance of assessing mental health or psychosocial problems for older patients experiencing a stroke or

fractured hip and the need to follow them up is highlighted (Bond et al., 1998). This suggests that the type of coping strategies employed with regard to stroke and fractures would be a relevant area of intervention, as these would have an influence on the degree of successful outcome that can be achieved via rehabilitation, whether directly or through influencing emotional states.

The conditions of stroke and fracture appear to be associated with other geropsychological issues. Research (Mast et al., 1999) has found that the rates of dementia were higher among stroke and fracture patients compared to community base rates of dementia for older adults. Similarly, depression rates were also higher for such patients in comparison to community dwelling older adults (Mast et al., 1999). It is important to recognise the presence of any signs of dementia and depression as early as possible, so that for the purposes of rehabilitation, treatment and discharge planning can focus on the constellation of symptoms manifested rather than solely upon the primary diagnosis. Previous research has indicated that depression and dementia have adverse effects on rehabilitation outcomes. It appears highly preferable that all older medical patients could undergo a standard evaluation that considers general geriatric issues such as cognitive impairment and depression, and the results of such evaluations to be made available early within the rehabilitation stay (Mast et al., 1999).

Statement of the Research Problem

The following research study concerns an investigation of the relationship between coping with health-related problems and emotional status among hospital patients. Specifically, the relationship between various coping strategies, emotional status or psychological distress and physical illness or injury will be investigated amongst older hospital in-patients. The main focus will be on the degree to which different coping strategies will predict depression, anxiety and somatic complaints.

Definitions of Terms and Measures

The following operational terms are used with regard to the variables under investigation in this study:

Coping can be defined as cognitive and behavioural attempts to change, modify or regulate internal or external factors, which could be either adaptive or maladaptive (Endler et al., 1998).

The coping predictor variables defined in terms of the different strategies engaged in when coping with health, illness and injury-related problems according to the CHIP scales:

- Negative emotion coping (involves fixation with the emotional consequences of the health problem, and is related to emotion-focused coping)

- Distraction coping (attempts to think about other possibly more pleasant experiences, engage in unrelated activities or seek the company of others, and closely related to so-called avoidance coping)
- Palliative coping (self-help responses directed at relieving the unpleasantness of the situation, attempts at self-care that could involve lay beliefs about illness)
- Instrumental coping (task-oriented responses, closely related to problem-focused coping, referring to actively seeking out health information or medical advice) (Endler et al., 1998).

The Somatic Complaints (SOM) scale of the PAI refers to concerns about physical functioning and health matters. The content of items ranges across various somatoform presentations, from minor physical ailments such as headaches, to major dysfunction in organ systems such as paralysis. Scores that are slightly above average reflect some concern about health functioning and would not be uncommon in older subjects or in medical patients with relatively specific organic symptoms. The Anxiety (ANX) scale reflects clinical features that are common to the experience of anxiety, including ruminative worry, subjective feelings of apprehension and strain and physical signs of tension and stress. The scale consists of the three major modalities in which anxiety is expressed. The Depression (DEP) scale assesses clinical features common to the syndrome of depression, including pessimism, negative expectations, subjective

feelings of unhappiness and apathy, and physical indicators such as low energy and changes in sleep and appetite. The scale is comprised of the three major modalities in which depressive symptomatology is expressed (Morey, 1991).

Hypotheses

This study investigates the following hypotheses:

- whether there is a relationship between particular types of coping strategies and emotional status among older hospital in-patients
- the degree to which the different coping strategies predict depression, anxiety and somatic complaints amongst patients
- the degree to which various demographic variables predict the dependent variables of depression, anxiety and somatic complaints
- whether there is a relationship between having a specific illness, and the coping and emotional status variables; whether coping and emotional status discriminate among people with specific illnesses
- whether there are any differences between the types of coping strategies that men and women engage in with regard to dealing with health-related stressors

CHAPTER THREE

METHOD

Participants

The study sample involves 120 older hospital in-patients with a variety of illnesses from two Perth teaching hospitals, Fremantle and Sir Charles Gairdner. Their ages range from 42 years to 98 years, with a mean age of 70.8 years (SD= 12.9). The sample consists of 48 male (40%) and 72 female (60%) participants. In terms of marital status, 5.8% of the sample was single, 40% was married/de facto, 15.8% was divorced/separated and 38.3 % was widowed. Forty-two patients (35% of the sample) were recruited from the Fremantle Hospital Geriatric/Rehabilitation Ward, 27 patients (22.5% of the sample) from the Fremantle Hospital General Medicine Ward and 51 patients (42.5% of the sample) from Sir Charles Gairdner Hospital.

Participants had been injured or ill for approximately 2 days to 2160 days (M= 139.6, SD= 294.4, R = 2158) when contacted. The number of lifetime hospitalisations amongst participants ranges from 1 to more than 5 times (M= 3.8, SD= 1.4). A rating system for the severity of sickness, illness or injury was set up. Scores range from 1= not at all severe to 5= extremely severe, with the sample having a mean of 4.3 (quite severe, SD= 0.9). Fewer than 1% (0.8%) of the sample experienced their illness or injury as being not at all severe, 3.3% as being somewhat severe, 10.8% as being moderately severe, 34.2% as being quite severe and 50.8% as being extremely severe.

Participants experienced a variety of illnesses or injury-related problems. Examples of common health problems that were encountered amongst participants are hip fractures, stroke, limb fractures, mobility problems, back problems, chronic pain, lung conditions, cancer, arthritis, amputations and heart conditions.

Relatively few (8.3%) of the sample had only been hospitalised once during their lives, 11.7% twice, 18.3% three times, 15% four times and 46.7% more than five times. Participants' first age of hospitalisation ranged from 4 years to 98 years ($M= 44.9$, $SD= 23.8$).

Sample Size

The sample size aimed for was 100 participants, however the total sample size for the study was 120 participants. This sample size can be justified in terms of fulfilling one of the requirements of regression analysis, which refers to the ratio of cases to the independent variables. This ratio is used as regression is one of the main statistical techniques employed to analyse the study's data. For this assumption to be fulfilled it is necessary that the total number of predictor variables be multiplied by 20 (Coakes & Steed, 1999). Thus 5 predictor variables $\times 20 = 100$ cases. As the obtained sample size is 120 participants, this is adequate for the computation of multiple regression analyses. As the sample participants belong to already existing groups a non-probability purposive sampling procedure was employed.

Materials / Instruments

Two psychological tests were administered to participants. The Coping with Health Injuries and Problems Scale (CHIP) has four subscales related to the various coping strategies that one may use in response to having an injury or illness. The CHIP provides a self-report measure of coping strategies towards physical health-related experiences and has 32 items in total. Items are rated in terms of a five point scale ranging from not at all to very much (1 = not at all, 2 = sometimes, 3 = moderately, 4 = often and 5 = very much). The four subscales are: Distraction Coping (focusing one's attention on more pleasant experiences, engaging in unrelated activities or by seeking the company of others), Palliative Coping (attempts in alleviating the unpleasantness of a health problem), Emotional Preoccupation Coping (focusing on the emotional consequences of having a health problem) and Instrumental Coping (a task-oriented approach towards health problems). Endler et al. (1998) recommended use of the CHIP in different medical populations.

The CHIP appears to have sufficient reliability and validity as a multidimensional coping inventory with items that are conceptually representative of each of the coping dimensions that it assesses, and these are related to significant related constructs in the coping literature. The CHIP was found to have high test-retest reliability (relating to a two to three weeks time period, ranging from .8 to .9), highly satisfactory internal reliability coefficients (ranging from .7 to .9) and satisfactory mean interitem correlations for all scales (ranging from .2 to .5). Regarding validity, the statistical procedures employed

to develop the scale appeared to have statistical validity or “robustness”. The CHIP also showed satisfactory construct ($F(4, 200) = 5.6, p < .001$) and convergent validity (GFI = .9, AGFI = .9 and RMS = .1) (Endler et al., 1998).

The Personality Assessment Inventory (PAI) is a self-report personality inventory screening for psychopathology. Items are rated in terms of a four-point scale ranging from *not true* to *very true*. It consists of 22 nonoverlapping scales: 4 validity, 11 clinical, 5 treatment and 2 interpersonal scales, as well as conceptually derived subscales. It has established validity (including convergent and divergent validity with other relevant measures) and reliability, as well as data yielded from exploratory and confirmatory factor analyses (Rozenky, Sweet & Tovian, 1997). With regards to this study, from the clinical scales only the Depression (DEP), Anxiety (ANX) and Somatic Complaints (SOM) scales of the PAI were employed. Each of the Depression and Anxiety scales consists of three subscales measuring the cognitive (DEP-C / ANX-C), affective (DEP-A / ANX-A) and physiological (DEP-P / ANX-P) aspects of depression and anxiety. The Somatic Complaints scale, which reflects preoccupation with health matters and somatic complaints specifically regarding somatisation and conversion disorders, consists of the three subscales Health Concerns (SOM-H), Somatisation (SOM-S) and Conversion (SOM-C). Each of the Depression, Anxiety and Somatic Complaints scales consist of 24 items, with each subscale consisting of 8 items (Morey, 1991).

In addition, measures of the patients’ activities-of-daily-living (ADLs) were obtained from the Barthel Index (BI), an ADL measure which provides a

score with regard to a patient's level of mobility. The BI is routinely conducted on patients in the Geriatric Rehabilitation ward at Fremantle Hospital. It consists of a Mobility subscore made up of six items rated in terms of the categories *can do alone*, *can do with help* and *cannot do at all* (Cushman & Scherer, 1995). Items are scored to give a scale ranging from 1 to 15 points (Gray, Woodward, Scholes, & Fonda, 1992). It has been recommended as a standard assessment and has established reliability and validity (Squires, 1996). The medical staff sponsor at Fremantle Hospital was permitted by the Ethics Committee to allow the researcher to access in-patients' medical files in order to collect the data related to their BI scores.

The questionnaires also collect information concerning the demographic factors of age, gender, marital status, number of life-time hospitalisations, type of illness or injury that one is suffering from, perceived severity of illness or injury and approximate duration of illness or injury. Please refer to Appendix C. The reference to the most recent sickness, illness or injury by the CHIP refers to the patient's present episode of hospitalisation, which was made clear to participants during the face-to-face questionnaire administration.

Research Design

The sub-samples involved in the study were compared in terms of which ward and hospital participants were recruited from, in order to determine whether these sub-samples differed to any significant extent in terms of the various demographic factors.

The study involves four predictor variables, in addition to the demographic predictors, which are the coping strategies from the four CHIP subscales:

- Negative Emotion,
- Distraction,
- Palliative Coping, and
- Instrumental Coping.

The demographic predictors are:

- Total number of lifetime hospitalisations (5 levels, from one up to a score of 5 for five or more hospitalisations = 5)
- Marital status (4 levels, operationalised as single = 1, married/de facto = 2, divorced/separated = 3, and widowed = 4)
- Age
- Gender
- Hospital and ward differentiation
- Severity of illness or injury (5 levels, operationalised as not at all = 1, somewhat = 2, moderately = 3, quite = 4, and extremely = 5)
- Approximate duration of illness or injury (in days)

The study involves 3 criterion variables:

- Anxiety (comprising the sum of the three PAI subscales of

- Physiological, Affective and Cognitive)
- Depression (comprising the sum of the three PAI subscales of Physiological, Affective and Cognitive)
 - Somatic complaints (comprising the sum of the three PAI subscales of Conversion, Somatisation and Health Concerns).

Data Analysis

Analyses of the descriptive statistics were carried out as a first step, which examined for outliers and properties of the distributions. Correlations were also computed between the relevant variables. The raw scores obtained for each participant with regard to Depression, Anxiety and Somatic Complaints were converted to the *T*- scores of the PAI and interpreted in terms of these. Hierarchical multiple regression analyses were conducted for each criterion variable with multiple predictor variables entered in separate clusters to form the hierarchy. Placing variables in hierarchical order involves predicting the amount of variance that such variables are responsible for, in terms of other predictors that are already included in the regression equation (Diekhoff, 1992). With hierarchical regression, no independent variable entering later should be a presumptive cause of an independent variable entered earlier. Demographic variables such as age and sex are unlikely to be affected by more transitory states or traits, and are thus usually assumed to be temporally prior (Cohen & Cohen, 1983). For this reason, these variables were entered as the first level predictors in the hierarchical analyses, and included age, number of lifetime

hospitalisations, severity of the illness or injury, approximate duration of illness or injury (in days) and marital status. Each regression consisted of two levels, the second one consisting of the CHIP predictors of Instrumental, Palliative, Negative Emotion and Distraction coping. This hierarchy was used with each of the dependent variables of Depression, Anxiety and Somatic Complaints.

Procedure

Ethics clearance to conduct the study was gained from the Edith Cowan University School of Psychology, Fremantle Hospital and Sir Charles Gairdner Hospital Ethics Committees. Copies of questionnaires provided to participants included an information sheet (Appendix A) about the research and a consent form with regard to participating in the study (Appendix B). Participation in the study was on a voluntary basis, and participants were informed that confidentiality would be strictly adhered to, and that they could withdraw from the study at any time should they so wish. Withdrawal would be without any deleterious consequences. Thus informed consent was obtained from study participants, who were also informed that no personally identifying information concerning individuals would be revealed at any time.

In-patients at the two hospitals who were a minimum of 40 years of age and upwards were eligible to participate. In-patients were from the Geriatric Rehabilitation and General Medicine wards of Fremantle Hospital and from the Orthopaedics wards of Sir Charles Gairdner Hospital. Questionnaires were administered to each participant after their consent to participate in the research

was obtained. Questionnaire administration was thus conducted face-to-face within the hospital wards, and occurred for 2 or 3 days each week between the period of July 1999 to December 1999. Administration of the questionnaires required approximately 45 minutes to 1 hour.

Hospital patients were recruited on the ward by being approached by the researcher. Most of the patients who were approached agreed to participate. Thus a total of 133 questionnaires were administered, with 13 questionnaires not being included in the sample. These 13 patients were excluded as research participants due to incomplete or missing data (considered as such if any items on the questionnaires remained unanswered), or if patients were below 40 years of age. Thus the final total sample amounted to 120 subjects.

Barthel Index scores were collected from as many participants as possible, however these scores were not available for all patients. Since a total of only 36 scores were collected, it was not feasible to conduct the relevant statistical analyses. Therefore these scores were not used in the study.

Permission was granted by Psychological Assessment Resources, Inc. (PAR, Inc.) to use the three scales of the Personality Assessment Inventory (Morey, 1991) in the study. Please refer to Appendix D. PAR, Inc. Sir Charles Gairdner Hospital and Fremantle Hospital will receive copies of a summary of the study results.

CHAPTER FOUR

RESULTS

A series of oneway-analysis of variance (ANOVA) was conducted to assess whether there were any statistically significant differences between the means of the sample groups as compared in terms of hospital and ward differentiation on the basic demographic measures. Means and standard deviations for the questionnaires are reported in Tables 1 and 2.

There was statistical significance with regard to the CHIP Distraction Coping scale, $F(2,117) = 9, p < .05$, the CHIP Palliative Coping scale, $F(2,117) = 3.1, p < .05$ and age, $F(2, 117) = 13, p < .0001$.

For the coping strategy differences found between the hospitals and wards, the homogeneity of variance assumption was not violated as Levene's test for homogeneity of variances was not significant ($p > .05$) in both cases. The post-hoc comparisons also indicated that patients in the Geriatric/Rehabilitation Ward of Fremantle Hospital engaged more in the Distraction and Palliative coping strategies of the CHIP as compared to patients in the General Medicine Ward of Fremantle Hospital and in-patients at Sir Charles Gairdner Hospital ($p < .0001$ and $p < .05$ respectively).

An exploration of data in terms of the variables of Distraction coping, Instrumental coping, Negative Emotion coping, Palliative coping, Depression, Anxiety and Somatic Complaints did not indicate any serious violated assumptions regarding equality of variances and normal distributions. There was

also a statistically significant difference with regard to age between the two hospitals and the three ward groups involved in the study. For the mean age differences, the variances for each patient group cannot be assumed as being equal, as the homogeneity of variance assumption has been violated according to Levene's test for the homogeneity of variances which was significant, $LS(2, 117) = 7.1, p < .001$. Post-hoc comparison tests (Tukey's HSD) of these statistically significant differences revealed that patients belonging to the Geriatric Rehabilitation Ward of Fremantle Hospital had a higher mean age ($M = 78.3$ years) in comparison to patients from the Fremantle Hospital General Medicine Ward ($M = 66.6$ years) and Sir Charles Gairdner Hospital ($M = 67$ years) ($p < .05$ and $p < .01$ respectively).

The reliability analysis for the CHIP revealed that the corrected item-total correlations amongst the CHIP scales are relatively similar. The reliability coefficient (Cronbach's alpha) for each of the CHIP scales, is given in Table 1.

The reliability analysis for the PAI for each of the PAI scales, are also reported in Table 1. The overall reliability coefficient for the PAI scale is 0.9. The reliability coefficients for both the CHIP and PAI scales thus appear to be satisfactory.

Descriptive statistics were correlated with participants' scores for Depression, Anxiety and Somatic Complaints converted into the PAI *T*-scores. Refer to Table 1.

Table 1.
Means and Alpha Coefficients for the PAI and CHIP** Scales*

	Means (N = 120)	SD	Reliability Coefficients (Alpha)
<i>PAI T-scores</i>			
Depression	71.8	12.8	0.9
Anxiety	60.6	13.5	0.8
Somatic Complaints	65.5	11.6	0.7
<i>CHIP scores</i>			
Palliative Coping	26.8	4.9	0.4
Negative Emotion			
Coping	25.8	7.6	0.4
Instrumental Coping	28.6	5.6	0.5
Distraction Coping	23.1	6.1	0.5

*PAI: Personality Assessment Inventory

**CHIP: Coping With Health Injuries and Problems Scale

The *T*- score totals were also analysed in terms of the interpretation categories for score ranges of the PAI. Therefore, the frequencies revealed the following: for categorised Anxiety levels, 45.8% of the sample had average scores (*T*-scores ranging from 0 to 59), 28.3% of the sample had slightly elevated scores (*T*-scores ranging from 60 to 69), 23.3% of the sample had significant elevations (*T*-scores ranging from 70 to 90) and 2.5% of the sample had marked elevations (*T*-scores ranging from 91 to 103). For categorised Depression levels, 19.2% of the sample had average scores (*T* 0-59), 21.7% had slight elevations (*T* 60-69), 31.7% had significant elevations (*T* 70-79), and

27.5% had marked elevations (T 80-111). For categorised Somatic Complaints levels, 30.8% had average scores (T 0-59), 39.2% had slight elevations (T 60-69), 25.8% had significant elevations (T 70-87) and 4.2% had marked elevations (T 88-110).

Table 2.
Means and Alpha Coefficients for the PAI Subscales*

PAI Raw Scores	Means (N = 120)	SD	Reliability Coefficients (Alpha)
Anxiety- Physiological	7.9	4.7	.8
Anxiety- Cognitive	9.1	5.4	.8
Anxiety- Affective	10.7	5.7	.8
Depression- Physiological	14.9	5.1	.7
Depression- Cognitive	10.1	4.7	.7
Depression- Affective	10	5.1	.8
Somatic Complaints- Conversion	7.2	5.2	.4
Somatic Complaints- Somatization	9.4	4.4	.6
Somatic Complaints- Health Concerns	10.1	4.8	.6

*PAI: Personality Assessment Inventory

A t-test indicated statistical significance with regard to gender and coping strategies. It was found that males engaged in less Distraction coping ($M = 21.3$, $SD = 5.9$) than females ($M = 24.4$, $SD = 6$), ($p < .01$, $p = .006$, $t(118) = -2.8$).

The predictors of severity of illness, sickness and injury, gender, hospital and ward differentiation, total number of lifetime hospitalisations, approximate duration of recent illness, sickness or injury in days, marital status and age, the demographic predictors, formed the first level for the hierarchical regression combination. Hierarchical multiple regression analyses were conducted, with each regression involving the demographic predictors entered first in the hierarchy, with the coping predictors entered second. The HRMA were repeated for each dependent variable and revealed the following:

The demographic variables accounted for 5.5% ($R^2 = .05$) of the variance of the total Anxiety score of the PAI. The demographic predictors together with the predictors of Instrumental, Negative Emotion, Palliative and Distraction Coping strategy CHIP scores combined to account for 35.4% ($R^2 = .354$) of the variance of total Anxiety. The coping predictors separately contribute 30% ($35.4\% - 5.5\%$) of the variance towards total Anxiety, $F(11, 108) = 5.4$, $p < .0001$. The predictors for total anxiety were statistically significant ($p < .05$). Hospital and ward differentiation and Negative Emotion coping were the only individual variables that predicted variance in total Anxiety with statistical significance ($p < .05$, $p < .01$ and $< .001$ respectively). The beta value coefficients (Table 3) confirm that hospital and ward differentiation and the CHIP Negative Emotion Coping are the best predictors of Total Anxiety.

With regard to the Total Depression score of the PAI, the demographic predictors account for 7.6% ($R^2 = .0$) of the variance. The coping predictors contribute an additional 36.8% (44.4% - 7.6%) ($R^2 = .4$) of the variance of the Total Depression score, $F(11, 108) = 7.8, p < .0001$. The beta value coefficients confirm that age, hospital and ward differentiation, the CHIP Negative Emotion coping and the CHIP Distraction coping are the best individual predictors of total Depression (Table 4), (all with $p < .01$).

With regard to the Total Somatic Complaints score of the PAI, the demographic predictors contribute 14% ($R^2 = .1$) towards the total variance ($p < .05$). The coping predictors of the CHIP contributed a further 25.1% (39.1% - 14%) ($R^2 = .3$) of the variance towards total Somatic Complaints, $F(11, 108) = 6.3, p < .0001$. The beta value coefficients in Table 5 report the details of the hierarchical multiple regressions.

The demographic and coping variables together predicted 39% of the total variance, which was statistically significant in both cases ($p < .05, p < .01$). Approximate duration of recent illness, sickness or injury, total lifetime hospitalisations and Negative Emotion coping were found to statistically significantly predict variance with regard to total Somatic Complaints ($p < .05, p < .01, .04$ and $.01$ respectively).

Table 3.
Regression Table for Total Anxiety

Predictors	R Square	B	Beta	Significance
<i>Demographic</i>	.1			.5
Age		.2	.2	.1
Approximate duration of recent illness, sickness or injury		-1.1	-.0	.8
Gender		1.9	.1	.5
Hospital & ward differentiation		4.8	.3	.0*
Hospitalisation total		.9	.1	.3
Marital status		1.2	.1	.4
Severity of illness, sickness and injury		-.4	-.0	.8
<i>Coping</i>	.4			.0*
Negative Emotion coping		1	.6	.0*
Palliative coping		.2	.1	.4
Instrumental coping		5.1	.0	.8
Distraction coping		-.3	-.1	.1

* $p < .05$

Table 4.
Regression Table for Total Depression

Predictors	R Square	B	Beta	Significance
<i>Demographic</i>	.1			.3
Age		.2	.2	.0*
Approximate duration of recent illness, sickness or injury		8.5	.0	.8
Gender		.7	.0	.7
Hospital & ward differentiation		3.7	.3	.0*
Hospitalisation total		.1	.0	.9
Marital status		.8	.1	.4
Severity of illness, sickness and injury		1.2	.1	.3
<i>Coping</i>	.4			.0*
Negative Emotion coping		.9	.6	.0*
Palliative coping		.3	.1	.1
Instrumental coping		-.11	-.1	.5
Distraction coping		-.4	-.2	.0*

* $p < .05$

Table 5.
Regression Table for Total Somatic Complaints

Predictors	R Square	B	Beta	Significance
<i>Demographic</i>	.1			.0*
Age		2.3	.0	.8
Approximate duration of recent illness, sickness or injury		9.5	.2	.0*
Gender		-3.5	-.2	.1
Hospital & ward differentiation		1.4	.1	.2
Hospitalisation total		1.4	.2	.0*
Marital status		-.4	-.0	.7
Severity of illness, sickness and injury		1.4	.1	.2
<i>Coping</i>	.4			.0*
Negative Emotion coping		.6	.4	.0*
Palliative coping		.4	.2	.1
Instrumental coping		.3	.1	.1
Distraction coping		.3	.2	.1

* $p < .05$

A variable of illness group was formed to determine the extent to which the various measures could differentiate between the three groups of 1) hip and limb fractures ($n= 49$), 2) back injury, rheumatoid and osteo-arthritis ($n= 18$), and 3) coronary-related illness and stroke ($n= 18$). The independent variables entered were Negative Emotion, Distraction, Palliative and Instrumental Coping, and the T -score PAI totals for Depression, Anxiety and Somatic Complaints. A Discriminant Function Analysis was computed using group prior probabilities. Box's M was not significant ($p > .001$), thus the assumption of homogeneity of variance-covariance matrices was not violated. The pooled within-groups correlation matrix indicates that the correlations between variables are low, ranging from a high of .5 between CHIP Negative Emotion Coping and the T -score for Depression and .1 between CHIP Instrumental Coping and the T -score for Anxiety. Such low correlations indicate that multicollinearity is not a problem. One-way comparisons using the Wilks' Lambda statistic indicate that there were no significant differences among the predictor variables. An examination of the canonical discriminant functions output indicates that neither of the two possible discriminant functions was able to separate the three groups very well (chi-square values of 17.3 ($df = 14, p > .05$) and 5 ($df = 6, p > .05$)).

When age was correlated with the various coping strategies, statistically significant correlations were found between age and Distraction coping, and between age and Palliative coping ($p < .05$ respectively). Refer to Table 6.

Table 6.
Pearson Correlation Coefficients for Age and the CHIP Coping Scales §

	Age	Distraction Coping	Instrumenta Coping	Negative Emotion Coping	Palliative Coping
Age	-				
Distraction Coping	.2*	-			
Instrumental Coping	-.1	.3**	-		
Negative Emotion Coping	-.1	.1	.1	-	
Palliative Coping	.3**	.2	.2	.1	-

§ $N = 120$

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

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

Pearson correlation analyses among the demographic measures and questionnaires are reported in Table 7. Generally, these indicate statistically significant correlations between Negative Emotion coping and the three scales of the PAI (Depression, Anxiety and Somatic Complaints, $p < .01$ respectively).

Table 7.
Pearson Correlation Coefficients among the Demographic Variables, Psychological Distress and Coping Factors §

	Distr.	Instr.	Neg. Em.	Pall.	Dep.	Som. Com.	Anx.	Hosp. Total	Mar. Statu	Appx Durtn
Distraction Coping	-									
Instrumental Coping	.3**	-								
Negative Emotion Coping	.1	.1	-							
Palliative Coping	.2	.2*	.1	-						
Depression	-.2*	-.1	.5**	.2*	-					
Somatic Complaints	.2*	.2*	.5**	.2*	.5**	-				
Anxiety	-.1	-.0	.5**	.1	.8**	.4**	-			
Hospitalisation Total	-.1	-.0	-.1	-.0	.0	.2*	.1	-		
Marital Status	.1	-.0	-.2*	.1	.1	-.1	.1	.0	-	
Approximate Duration of Illness	.1	.1	.0	-.2**	-.0	.3**	-.0	.2	-.1	-
Severity of illness	-.1	-.0	.1	-.0	.2*	.2*	.1	.1	-.2*	.1

* p is significant at the .05 level (1-tailed)

** p is significant at the .01 level (1-tailed)

§ $N = 120$

CHAPTER FIVE

DISCUSSION

The findings of this study support some of the hypotheses and not others. Support was provided for the hypotheses regarding the relationship between maladaptive coping strategies and psychological distress. In contrast, there was less support for the hypotheses relating to the impact of amount of lifetime hospitalisations on coping, and the ability of the various coping strategies to discriminate among illness group membership.

This study found a pattern of positive correlations among depression, anxiety, somatic complaints and the CHIP Negative Emotion Coping scale. There were also significant correlations among Palliative Coping, Distraction Coping and somatic complaints. The correlational procedures thus generally support previous research findings with regard to the associations among depression, anxiety and somatic complaints (Bond et al., 1998; Broe et al., 1998; Casten et al., 1997; Forsell & Winblad, 1998; Rabins, 1998; Verbrugge et al., 1994), which also agrees with the research regarding negative affectivity (NA) or neuroticism (Affleck et al., 1992; Bergmann, 1998; Cohen-Mansfield, 1998; Costa & McCrae, 1988; Lauver & Johnson, 1997). NA has also been related to the use of maladaptive coping strategies such as emotion-focused coping (Zeidner & Endler, 1996).

The correlational analyses indicate a relationship between maladaptive coping strategies such as negative emotion and palliative coping (forms of emotion-focused coping) and excessive distraction (a form of avoidance coping), and psychological distress in the form of depression, anxiety and frequency of somatic complaints in this study (Aldwin, 1994). In general, there is evidence to suggest that escape/avoidance as a form of coping is the least effective method of dealing with life problems (Davison & Neale, 1998). The significant negative correlation found here between the CHIP Distraction Coping and depression (low distraction coping and low depression) is consistent with previous research (Arbuckle et al., 1999).

The significant negative correlation between Negative Emotion Coping and marital status perhaps reflects the role that social support plays with regard to adaptive or maladaptive coping strategies employed. This is in line with previous research confirming the importance of social factors within the process of coping in the context of health problems, patient rehabilitation and illness outcomes (Greene & Adelman, 1996; Hays et al., 1997; Mossey et al., 1989; Oxman & Hull, 1997; Roberto, 1992; Ward & Higgs, 1998).

The correlations generally indicate that the longer the duration of and the more severe the illness, the higher the levels of psychological distress. Higher levels of maladaptive coping are also associated with concomitantly higher levels of psychological distress. Having experienced more total lifetime hospitalisations is associated with higher levels of somatic complaints. This could indicate that previous hospitalisations had an effect on coping strategies

developed in reaction to the stressors of illness and hospitalisation. Such previous experience in hospital could have led to a hypervigilance with regard to health and physical functioning among these patients. The increased attention could subsequently develop into somatization as a coping strategy in dealing with psychological distress. That is, those with previous hospitalisation experiences could have developed a predisposition to engage in somatization as a coping strategy. Conversely, being sicker for longer could make one more unhappy and worried about health, which again as negative emotional status would have a deleterious effect on physical health (Affleck et al., 1992; Casten et al., 1997; Cioffi & Holloway, 1993; Cohen-Mansfield & Taylor, 1998; Moosbrugger & Schermelleh-Engel, 1991). This provides some support for the hypothesis that previous differential exposure to stressors creates different ensuing health trajectories (Arbuckle et al., 1999), although such support is limited in that correlational and not causal evidence is provided.

The correlation between Palliative Coping and depression can be understood in light of previous research finding a link between learned helplessness and depression, and the ensuing sense of hopelessness, which would tend to encourage an individual to give up attempts at coping with life stressors (Barlow & Durand, 1995). Therefore in this context, the use of palliative coping strategies would make sense in that they are compatible with a sense of helplessness and decreased control over the stress of dealing with health problems. The correlation between Palliative Coping (a form of emotion-focused coping) and illness duration is consistent with this argument. Emotion-focused

coping strategies are associated with the sense of decreased control that one would have over a chronic illness that has not responded to medical treatment (Endler et al., 1998).

This study found a statistically significant difference between gender and distraction coping, in that women engaged in more distraction coping than did men, consistent with this hypothesis. Folkman et al. (1987) hypothesised that men and women have different coping style trajectories across the lifespan, that is, increased use of distraction coping among women could reflect cultural values which encourage men to employ more confrontive forms of coping.

The association between age and particular coping style is supported by the significant correlations found between age and Distraction coping ($p < .05$), and between age and Palliative coping ($p < .01$). This finding can be related to previous research reporting that older adults engage in fewer forms of behavioural coping than their younger counterparts (Folkman et al., 1987).

The results support previous research in that there is a relationship between coping and emotional status or psychological distress, in the context of physical health problems and the experience of medical illness (Endler et al., 1998; Folkman et al., 1987).

The CHIP Negative Emotion Coping strategy was a consistent and statistically significant predictor of depression, anxiety and somatic complaints among older hospital in-patients. The CHIP Distraction Coping strategy also predicted depression with statistical significance. It is evident from the hierarchical multiple regression analyses that the amount of variance accounted

for was substantially greater for the coping predictors than for the demographic predictors. This implies that coping strategies used by people are stronger predictors of emotional state than is the prediction by the objective severity of illness.

The findings from the hierarchical regression analyses indicated that the coping predictors accounted for the most variance for depression, second for somatic complaints and thirdly for anxiety. Previous research has confirmed this link between coping and psychological well-being, in that coping strategies can serve to moderate the presence of psychological distress (Lazarus & Folkman, 1984). The consistency of Negative Emotion Coping as a predictor of emotional status and somatic complaints implies a relationship between maladaptive emotion-focused strategies and psychological well-being, consistent with the findings of previous research (Arbuckle et al., 1999).

This is also in line with the findings that neuroticism or NA is usually associated with the presence of psychological distress, and that individuals high in NA are generally prone to employ maladaptive emotion-focused strategies, thus further increasing their levels of psychological distress. This would develop into a vicious cycle whereby ineffective coping strategies increase levels of psychological distress which then in turn can lead to further maladaptive coping (Affleck et al., 1992; Cioffi & Holloway, 1993; Lauver & Johnson, 1997).

Specifically, the regression analyses for somatic complaints revealed that the longer the duration of the illness and the more total lifetime hospitalisations experienced, the higher the levels of somatic complaints ($p < .05$). This finding

could relate to the hypothesis that previous experience in dealing with similar stressors would either strengthen or erode existing coping skills (Zeidner & Endler, 1996). It would seem that this particular finding provides support for the latter hypothesis. It is further supported by the significant correlation found between illness duration and Palliative coping.

Distraction coping was found to predict depression, consistent with the hypothesis that there is a relationship between emotional status and avoidance coping. Even though this is generally considered to be maladaptive in the context of dealing with health stressors, in a situation where one's control is realistically limited, this could be an adaptive coping strategy (Arbuckle et al., 1999; Zeidner & Endler, 1996). Furthermore, the use of distraction could have therapeutic benefit in that temporary relief is gained from dealing with a stressor, however, it becomes maladaptive if used excessively as stressors then cannot become resolved. Any beneficial effects of distraction coping would also depend on the type of distraction activities engaged in, such as excessive drinking versus watching television. Research evidence regarding the adaptiveness of distraction has so far provided mixed results. Some findings indicate that avoidance could be an effective way of coping with short-term stressors such as noise, acute pain or uncomfortable medical procedures (Zeidner & Saklofske, 1996).

The finding that the older patients in the sample engaged in more palliative coping is also in line with the hypothesis that it would be more realistic of older adults to accept more unchangeability and less controllability with regard to stressors as age increases (Arbuckle et al., 1999; Folkman et al., 1987). Although

palliative coping could be regarded as a maladaptive coping strategy, in the context of chronic disease it could be adaptive and reflect acceptance of one's decreased control over the nature of the stressor and one's ability to change the situation. Furthermore as a consequence of more experience in dealing with stressors, the adoption of palliative coping as a strategy could indicate the increased flexibility in coping skills amongst older adults in terms of accepting this as a strategy and engaging in it (Arbuckle et al., 1999). The increased use of palliative coping amongst older adults could also agree with the hypothesis that postulates that older people employ more passive, intrapersonal emotion-focused forms of coping such as distancing and acceptance of responsibility (Folkman et al., 1987). This increase in use of palliative coping could be more adaptive, considering the research findings indicating the increase in emotional states such as depression that accompany older age (Emery, 1994; Mossey et al., 1989; Prince, 1998; Rabins, 1998). Such increased use of Palliative coping among the older patients is consistent with the finding that age was correlated with instrumental coping, implying that as one ages, there is a lesser tendency to engage in behavioural coping strategies and more in cognitive and emotion-focused strategies (Arbuckle et al., 1999).

Discriminant function analyses conducted in terms of different illness groups revealed that the coping and emotion measures were not able to discriminate among the various illness groups. Such a finding is inconsistent with the argument that there are illness-specific coping strategies (Endler et al., 1998), at least within this age group and set of illnesses. It does not appear that

the types of coping strategies can significantly differentiate the illness groups. The discriminant functions were not significant, implying an apparent uniformity between illness groups in terms of the coping predictors, anxiety and single versus multiple exposure to hospitalisations. This implies that the generalizability of this study's results is broadened to cover the variety of conditions in the sample.

The CHIP has been applied to cancer patients and has been used to investigate the coping behaviours of adults with chronic and acute health problems. A large amount of research has indicated that individuals with chronic health problems are more likely to focus on the emotional consequences of having a health problem compared to those with acute health problems. Many chronic health problems such as diabetes, heart problems or cancer lead to regular contact with health professionals, and involve structured treatment schedules that would seemingly promote the use of more instrumental coping behaviour among chronic patients than acute patients. Other researchers have found that avoidant, emotion-focused coping strategies appear to be less efficient than active, problem-focused coping strategies that apparently lead to better adjustment with regard to chronic illness. However, the relationships with adaptation found in the research literature are weak, as the characteristics of the disease-related stressor are usually not taken into account within this research area. The course of different serious chronic diseases would vary, as does the course of acute illnesses. Results with a heterogeneous set of illnesses over time would thus be more compelling as they would provide information regarding the

possible use of particular coping strategies at different stages of the illness, differences in the use of coping strategies between chronic and acute illness, and whether different illnesses lead to the emergence of the use of certain illness-specific coping strategies (Endler et al., 1998).

The general medical sample with which the CHIP was cross-validated consisted of participants experiencing a variety of illnesses, injuries or both. These included severe chronic diseases (for example, diabetes, cancer), gastrointestinal illness, female reproductive disease, acute osteo-injuries (for example, activity injuries, fractured limbs), respiratory disease, miscellaneous acute conditions (for example, skin rashes), back problems and cardiopulmonary illness. Another sample to which the CHIP was applied consisted of pain clinic outpatients. Reliability and validity data appear to be satisfactory with regard to both of these samples. The four-factor structure of the CHIP was found to be highly replicable both for individuals coping with a heterogeneous set of health problems and for those with very specific health problems (Endler et al., 1998).

Although the mean inter-item correlations for the CHIP scales within this sample appear to be relatively low, similar correlations among the CHIP scales were reported in previous research. The correlations for the CHIP scales in this study's sample ranged from .4 to .5, which compare favourably to those ranging from .3 to .4 in previous research with the CHIP (Endler et al., 1998). It has been suggested that the optimal level of item homogeneity for a scale occurs when the mean interitem correlation is between .2 and .4 (Briggs & Cheek, 1986). Low to moderate correlations among the CHIP scales can be understood in terms of

being expected for a multidimensional measure such as the CHIP (Endler et al., 1998). In light of such findings, the reliability coefficients obtained with the CHIP in this study's sample appear to be in line with those obtained in previous samples, and are deemed as being adequate.

The use of the CHIP within this present sample suggests that it can be used within an older adult medical patient sample, involving a variety of illness and health conditions, which is relatively representative of this population, and in which the CHIP indicated satisfactory reliability coefficients. Such use of the CHIP with regard to health problems across samples of differing age groups and illnesses could provide more conclusive future research data regarding the existence of differences in age-related coping processes and across various health problems.

The PAI *T*-score means for Depression, Anxiety and Somatic Complaints indicated scores that are relatively average, with Depression being slightly above average. However if this is viewed in light of an older adult sample with medical problems as in the context of this study, then this can likely be understood in terms of the higher levels of depression being associated with the presence of physical illness (Ward & Higgs, 1998).

Limitations of the Study

The representativeness of the study sample is limited in that a non-probability purposive sampling procedure was employed as opposed to random sampling. Participants were recruited from a pre-existing population group. This

could thus limit the external validity. However, external validity is increased in that such a field setting has more ecological validity. Also, all patients were successively approached, which is a systematic approach that is fairly representative except for the cohort effect of time of year at which patients were interviewed. However, given the climate in Perth, Western Australia, one would expect no substantial seasonal patterns of variation in hospital admissions. Given this, it could be assumed that the sample is quite representative of chronically ill hospitalised older adults. Furthermore, the sample is fairly representative in that there is a higher percentage of women participating in the study, reflecting the hospital population. Hospital admission rate data for Western Australia (Unwin & Codde, 1998) indicate that the highest rates of admission were among older adults, and rates among this age group were higher for females than males. This age group had the highest costs among females, and older female patients (45 years and above) also had a longer average length of hospital stay than their male counterparts (Unwin & Codde, 1998).

A longitudinal study would have provided greater information on changes in coping and emotional state. As the research design is cross-sectional, the degree to which predictions can be made is limited. A comparison with another sample group could have strengthened the study's results. For example, the sample of in-patients could have been compared to older adult out-patients, an older sample which was coping with stressors which were not health-related, or to a sample of healthy older adults. Such comparisons could provide information regarding the additional factors that can affect coping among older out-patients.

Whether there are any differences between groups of older adults who are coping with health-related problems and who are coping with other stressors or life events associated with ageing such as institutionalisation, or differences in coping and psychological status between ill and healthy older adults could also supplement the present study. Furthermore, causality cannot be inferred since the degree of control over extraneous variables is limited. Extraneous variables could arise from setting or contextual factors that would be operating in the hospital environment, that may affect the results. For example a staff strike occurring on a day upon which the patients were being interviewed could raise anxiety levels among patients. Although a staff strike did occur on one day that patient interviewing was taking place, this did not appear to have any direct or substantial effects upon data collection as this strike involved staff not attending work that day, which increased the workload of staff who were present, but did not affect patients in a major way. Apart from this single occurrence, the sample drawn appeared to be relatively typical of the hospital in-patient population. Nevertheless, factors such as the occurrence of a staff strike would somewhat decrease the study's internal validity.

The study's findings are necessarily only preliminary and exploratory, but are largely consistent with existing research in the area. Being a field descriptive study involving correlation, the conclusions that can be drawn from the results are compromised in that causal relationships between the variables under investigation cannot be inferred.

Future Research Recommendations

Simple conceptions of coping strategies may be too narrow to capture the complexity of the individual's lifetime responses to stressors or the breadth of the repertoire of resources that have been developed in response to stressful experiences. This would argue for the use of a multidimensional instrument that measures coping, such as the CHIP, over the use of unidimensional coping instruments. Empirical evidence indicates that multidimensional instruments assess coping more effectively and accurately than unidimensional assessment techniques (Endler et al., 1998; Steed, 1998). Such instruments could be used to assess coping strategies across different age groups, groups of older adults coping with different stressors, and ill versus healthy older adults. Furthermore, the CHIP could be used to explore differences in coping between middle-aged adults and the elderly, which could better illuminate age-related differences in coping processes.

Constructs that are also suitable in measuring older adults' coping repertoire are resilience and sense of coherence. Research evidence indicates that differential exposure to stressors in early life leads to different health trajectories over the lifespan (Arbuckle et al., 1999). In addition, the wide variety of chronic conditions suggests that a research agenda could be developed regarding the psychosocial correlates of any medical condition (Greene & Adelman, 1996).

A longitudinal study would provide valuable information with regard to the ability of coping factors to predict emotional status or well-being associated with health or illness outcomes and the process of recovery or rehabilitation.

More variables could be included such as social support factors, self-efficacy, hardiness and proactive attitude, and the impact of these on coping processes could be investigated. Structural equation models could be then be used to examine the hypothesised interactions among related variables. Coping differences and illness outcomes among patients participating in rehabilitation programs compared to those who do not participate could be investigated with various coping measures to assess the effectiveness of coping strategies engaged in, as well as to compare the coping measures so that their reliability and validity can be assessed. Findings regarding the CHIP on older adult samples can be further investigated so as to determine the applicability of this scale within this age group. The relationship of specific biopsychosocial factors involved with age and the ageing process; to coping, in conjunction with the presence of health problems could be investigated to determine whether this has any differential effects on coping processes. The impact of earlier differential life experiences on current coping mechanisms among medical patient populations could provide fruitful data with regard to differences in coping with health problems. It could also be useful to examine the impact of functional impairment or activity restriction on emotional status and coping among older patients.

Other future studies could investigate whether there are any differences in coping with particular illnesses between different age groups, or whether there are any coping differences in acute and chronic illnesses among younger and older patient groups.

Theoretical Implications

Despite the study's limitations, the reported associations between coping, demographic status and psychological factors demonstrated the impact that previous experience in coping with illness and hospitalisation has on psychological status. Research on the interaction between age and coping processes in general, and on the coping reactions engaged in when dealing with the stressor of physical health problems highlight the interactions between psychological and physical health status. Coping strategies and psychological well-being, and how these impact on health or illness outcomes, including the adjustment to medical illness, and on the process of rehabilitation are not well understood. By further conceptualising factors that play a role within the adjustment process of physical and mental health, the rehabilitation of hospital patients can be better facilitated.

Practical Implications

The role that health-related cognitions can play in coping as a reaction to illness is limited by the physical realities of the disease. Nevertheless, psychological interventions that promote more effective health-related cognitions could have beneficial results for patients (Lindsay & Powell, 1995).

Psychological interventions in the context of coping with health problems could include cognitive-behavioural therapy (CBT) for pain, dealing with anxiety and depression during the acute illness phase and during the course of chronic disease, patient-centred treatment with a problem-solving approach,

relaxation and behavioural therapies. All such interventions have proven effectiveness, and at minimum, resulted in better outcomes for patients who participating in such intervention programs compared to those who did not (Lindsay & Powell, 1995).

The successful use of behaviour therapy in improving coping skills for reducing problematic emotional reactions has been demonstrated in the research literature. Behavioural therapies can involve different combinations of education, relaxation, training in the use of coping statements and positive reinforcement (Hersen & Van Hasselt, 1996). Specific patient programs within the hospital setting could also be developed, for example a biobehavioural rehabilitation approach was found successful in reducing anxiety and teaching relevant coping skills among older adult medical patients (Lundervold & Poppen, 1995).

Conclusion

Since the results of this study indicate differential prediction of emotional states by different coping styles, this implies that the presence of any emotional problems would have to be addressed first before more adaptive coping styles are learnt. Improved coping methods could then be taught by both cognitive and behavioural methods. For example, therapy could ameliorate maladaptive coping strategies such as Negative Emotion Coping, in the context of hypochondriacal concerns or high NA. Specific patient programs could also be tailored according to patients' particular coping strategies. Thus patients' coping strategies would

need to be assessed prior to deciding on which program would be most appropriate for the particular patient.

Other examples could include effective coping skills for dealing with the emotional, personal and social implications of illness and hospitalisation, and devising a support group program concerning particular stressors (for example negative changes in self-image) that are having a negative effect in patients' lives. Ultimately, it should be aimed to strengthen patients' competencies so that by increasing their self-empowerment, an improved adjustment process towards illness can be facilitated.

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APPENDIX A

INFORMATION SHEET



FREMANTLE HOSPITAL

ALMA STREET, FREMANTLE, WESTERN AUSTRALIA
POST OFFICE BOX 480, FREMANTLE 6160
TELEPHONE (08) 9433 3333 FACSIMILE (08) 9335 9868

INFORMATION SHEET

TO BE USED IN CONJUNCTION WITH THE CONSENT FORM

The Experience of Health-Related Problems and Illness

Greetings, my name is Fotini Zachariades. I am currently in my final year of the Master's degree at Edith Cowan University. Part of the requirements for completing this course are that a master's research project is carried out. Therefore, in fulfillment of this course requirement, I am currently undertaking a research project at Fremantle Hospital. You are invited to participate in this research study which will concern the experience of health-related issues and illness, and adjusting to such experiences. This study has been approved by the Fremantle Hospital Ethics Committee and the Edith Cowan University Ethics Committee.

Participation in the study is voluntary and you may withdraw at any time should you so wish. Withdrawal from the study would not compromise in any way any current or future treatment received at Fremantle Hospital. The following information is provided so as to inform you about the purpose of this research, what it will involve and how the results will be dealt with.

Nature and Purpose of the Study

The aim of this research is to study the influence that health-related experiences and hospitalization have on the process of recovery or adjustment to illness or physical health-related problems. Furthermore, the effects of physical health problems on limiting one's activities and the adjustment that takes place following this will also be studied.

What the Study will Involve

If you decide to participate in this study, this will involve the completion of four brief questionnaires concerning health-related experiences. It is anticipated that the total time it takes to complete the questionnaires is approximately 30 minutes.

Questionnaires will be completed by you during a face-to-face administration that will be carried out by the researcher who will first obtain your informed consent to participate in the study.

Associated Risks and Benefits of the Research

There are no risks anticipated by participating in this study. Potential benefits of this research could be that a further understanding is gained of how one's experience of illness or injury can influence the process of recovery or adjustment to health-related problems. More improved treatment methods can then also be developed to improve one's process of adjustment to health-related problems, so that a better period of recovery can be enabled.

Concerning the Research Results and Information Obtained from the Study

You do not need to write your name on any of the questionnaires provided, thus you will remain anonymous.

Confidentiality will be strictly adhered to and only the researchers will have access to data obtained from the research.

No personally identifying information of individual participants will be revealed at any time.

**Thank you very much for your valuable participation in this study.
If you require any further information, please feel free to contact my supervisor or myself.**

**Prof. Edward Helmes (supervisor)
Fotini Zachariades**

**Tel. : [REDACTED]
Tel. : [REDACTED].**

APPENDIX B

CONSENT FORM



FREMANTLE HOSPITAL

ALMA STREET, FREMANTLE, WESTERN AUSTRALIA
POST OFFICE BOX 480, FREMANTLE, W.A.
TELEPHONE (08) 9431 3333 FACSIMILE (08) 9435 4898

CONSENT FORM

TO BE USED IN CONJUNCTION WITH THE INFORMATION SHEET

The Experience of Health-Related Problems and Illness

- 1) I understand and accept the nature of the study which has been satisfactorily explained.
- 2) I freely give my consent to participate in the study; I am over 18 years of age.
- 3) I understand that I am entirely free to withdraw from the study at any time.
Withdrawal from the study will not compromise future treatment at Fremantle Hospital.
- 4) I understand that I will not be referred to by name in any report concerning this study, and that any information that I provide will be treated confidentially.
- 5) If I have any further questions regarding the study I may contact Dr. David Bruce on phone number 9431 2673 (W).
- 6) I have been given and read a copy of this Consent Form and Information Sheet.

Signed.....

Date.....

Signature of witness.....

Name and designation of witness (please print).....

APPENDIX C

QUESTIONNAIRES ADMINISTERED

4

Please answer the following questions in the spaces provided.

1) Age in years: _____

2) Gender (please circle the applicable number):

Male	1	Female	2
------	---	--------	---

3) Marital status (please circle the applicable number):

Single	1	Married/De Facto	2	Divorced/Separated	3	Widowed	4
--------	---	------------------	---	--------------------	---	---------	---

4) How many times have you been hospitalized during your life (please circle the applicable number)?

*Amount of times that
you were hospitalized*

*Age in years at time
of hospitalization*

1

2

3

4

5 or more times

INSTRUCTIONS:

This questionnaire contains numbered statements. Read each statement and decide if it is an accurate statement about you. Mark your answer by circling one of the numbers provided on this sheet.

If the statement is false, not at all true, circle 1.

If the statement is slightly true, circle 2.

If the statement is mainly true, circle 3.

If the statement is very true, circle 4.

Give your own opinion of yourself. Be sure to answer every statement.

Do not write on the questionnaire sheets. Please begin at number 1 below. Thank you for your valuable co-operation.

**1= FALSE, NOT AT ALL TRUE
3= MAINLY TRUE**

**2 = SLIGHTLY TRUE
4= VERY TRUE**

- | | |
|---|---------|
| 1. My health condition has restricted my activities. | 1 2 3 4 |
| 2. I am so tense in certain situations that I have great difficulty getting by. | 1 2 3 4 |
| 3. Much of the time I'm sad for no real reason. | 1 2 3 4 |
| 4. I've seen a lot of doctors over the years. | 1 2 3 4 |
| 5. I often have trouble concentrating because I'm nervous. | 1 2 3 4 |
| 6. I feel that I've let everyone down. | 1 2 3 4 |
| 7. Much of the time I don't feel well. | 1 2 3 4 |
| 8. I often feel jittery. | 1 2 3 4 |
| 9. I hardly have any energy. | 1 2 3 4 |
| 10. I've had illnesses that my doctors could not explain. | 1 2 3 4 |
| 11. I can't do some things well because of nervousness. | 1 2 3 4 |
| 12. I've forgotten what it's like to feel happy. | 1 2 3 4 |
| 13. My health concerns are very complicated. | 1 2 3 4 |
| 14. It's often hard for me to enjoy myself because I am worrying about things. | 1 2 3 4 |
| 15. Sometimes I think I'm worthless. | 1 2 3 4 |

1= FALSE, NOT AT ALL TRUE
3= MAINLY TRUE

2= SLIGHTLY TRUE
4= VERY TRUE

- | | | | | |
|--|---|---|---|---|
| 16. I suffer from a lot of pain. | 1 | 2 | 3 | 4 |
| 17. I worry so much that at times I feel like I am going to faint. | 1 | 2 | 3 | 4 |
| 18. I have no trouble falling asleep. | 1 | 2 | 3 | 4 |
| 19. I've had numbness in parts of my body that I can't explain. | 1 | 2 | 3 | 4 |
| 20. Sometimes I am afraid for no reason. | 1 | 2 | 3 | 4 |
| 21. Everything seems like a big effort. | 1 | 2 | 3 | 4 |
| 22. It's a struggle for me to get things done with the
medical problems I have. | 1 | 2 | 3 | 4 |
| 23. I'm often so worried and nervous that I can barely stand it. | 1 | 2 | 3 | 4 |
| 24. I don't feel like trying anymore. | 1 | 2 | 3 | 4 |
| 25. I am in good health. | 1 | 2 | 3 | 4 |
| 26. Sometimes I feel dizzy when I've been under a lot
of pressure. | 1 | 2 | 3 | 4 |
| 27. I rarely have trouble sleeping. | 1 | 2 | 3 | 4 |
| 28. I've had episodes of double vision or blurred vision. | 1 | 2 | 3 | 4 |
| 29. I'm not the kind of person who panics easily. | 1 | 2 | 3 | 4 |
| 30. Nothing seems to give me much pleasure. | 1 | 2 | 3 | 4 |
| 31. My medical problems always seem to be hard to treat. | 1 | 2 | 3 | 4 |
| 32. My friends say I worry too much. | 1 | 2 | 3 | 4 |
| 33. I can't seem to concentrate very well. | 1 | 2 | 3 | 4 |
| 34. I seldom have complaints about how I feel physically. | 1 | 2 | 3 | 4 |
| 35. I can often feel my heart pounding. | 1 | 2 | 3 | 4 |
| 36. I've been moving more slowly than usual. | 1 | 2 | 3 | 4 |
| 37. There have been times when my eyesight got worse
and then better again. | 1 | 2 | 3 | 4 |
| 38. I am a very calm and relaxed person. | 1 | 2 | 3 | 4 |
| 39. I've lost interest in things I used to enjoy. | 1 | 2 | 3 | 4 |
| 40. I've had only the usual health problems that
most people have. | 1 | 2 | 3 | 4 |
| 41. I don't worry about things any more than most people. | 1 | 2 | 3 | 4 |
| 42. No matter what I do, nothing works. | 1 | 2 | 3 | 4 |
| 43. I have a bad back. | 1 | 2 | 3 | 4 |
| 44. It's easy for me to relax. | 1 | 2 | 3 | 4 |
| 45. I often wake up very early in the morning and
can't get back to sleep. | 1 | 2 | 3 | 4 |
| 46. I've had episodes when I've lost the feeling in my hands. | 1 | 2 | 3 | 4 |

1= FALSE, NOT AT ALL TRUE
3= MAINLY TRUE

2= SLIGHTLY TRUE
4= VERY TRUE

- | | | | | |
|---|---|---|---|---|
| 47. I often feel as if something terrible is about to happen. | 1 | 2 | 3 | 4 |
| 48. I have no interest in life. | 1 | 2 | 3 | 4 |
| 49. I've had some unusual diseases and illnesses. | 1 | 2 | 3 | 4 |
| 50. I don't worry about things that I can't control. | 1 | 2 | 3 | 4 |
| 51. I think good things will happen to me in the future. | 1 | 2 | 3 | 4 |
| 52. I have a weak stomach. | 1 | 2 | 3 | 4 |
| 53. When I'm under a lot of pressure, I sometimes have trouble breathing. | 1 | 2 | 3 | 4 |
| 54. I have a good appetite. | 1 | 2 | 3 | 4 |
| 55. I've had times when my legs became so weak that I couldn't walk. | 1 | 2 | 3 | 4 |
| 56. I seldom feel anxious or tense. | 1 | 2 | 3 | 4 |
| 57. Lately I've been happy much of the time. | 1 | 2 | 3 | 4 |
| 58. For my age, my health is pretty good. | 1 | 2 | 3 | 4 |
| 59. I usually worry about things more than I should. | 1 | 2 | 3 | 4 |
| 60. I have something worthwhile to contribute. | 1 | 2 | 3 | 4 |
| 61. I get more headaches than most people. | 1 | 2 | 3 | 4 |
| 62. I get sweaty hands often. | 1 | 2 | 3 | 4 |
| 63. I often wake up in the middle of the night. | 1 | 2 | 3 | 4 |
| 64. At times parts of my body have been paralyzed. | 1 | 2 | 3 | 4 |
| 65. I am easily startled. | 1 | 2 | 3 | 4 |
| 66. I'm almost always a happy and positive person. | 1 | 2 | 3 | 4 |
| 67. I like to talk with people about their medical problems. | 1 | 2 | 3 | 4 |
| 68. Sometimes I get so nervous that I'm afraid I'm going to die. | 1 | 2 | 3 | 4 |
| 69. I'm pretty successful at what I do. | 1 | 2 | 3 | 4 |
| 70. I frequently have diarrhea. | 1 | 2 | 3 | 4 |
| 71. I have little interest in sex. | 1 | 2 | 3 | 4 |
| 72. I have very steady hands. | 1 | 2 | 3 | 4 |

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Health Reactions Inventory

A) Please list your most recent illness, sickness or injury:

B) Approximate duration of most recent illness, sickness or injury:

Number of months: _____ Number of weeks: _____ Number of days: _____

C) How severe was this illness, sickness or injury? (circle one)

<i>Not at all</i>	<i>Somewhat</i>	<i>Moderately</i>	<i>Quite</i>	<i>Extremely</i>
1	2	3	4	5

The following are ways of reacting to health problems, such as illnesses, sicknesses and injuries. These are typically difficult, stressful or upsetting situations. We are interested in your last illness, sickness or injury (which you have just reported). Please circle a number from 1 to 5 for each of the following items. Indicate how much you engaged in these types of activities when you encountered this health problem. Please be sure to respond to each item.

1= Not at all
4= Often

2= Sometimes
5= Very much

3= Moderately

- | | |
|---|-----------|
| 1) Think about the good times I've had. | 1 2 3 4 5 |
| 2) Stay in bed. | 1 2 3 4 5 |
| 3) Find out more information about the illness. | 1 2 3 4 5 |
| 4) Wonder why it happened to me. | 1 2 3 4 5 |
| 5) Be with other people. | 1 2 3 4 5 |
| 6) Lie down when I feel tired. | 1 2 3 4 5 |
| 7) Seek medical treatment as soon as possible. | 1 2 3 4 5 |
| 8) Become angry because it happened to me. | 1 2 3 4 5 |
| 9) Daydream about pleasant things. | 1 2 3 4 5 |
| 10) Get plenty of sleep. | 1 2 3 4 5 |
| 11) Concentrate on the goal of getting better. | 1 2 3 4 5 |
| 12) Get frustrated. | 1 2 3 4 5 |
| 13) Enjoy the attention of friends and family. | 1 2 3 4 5 |

1= Not at all
4= Often

2= Sometimes
5= Very much

3= Moderately

- | | | | | | |
|--|---|---|---|---|---|
| 14) Try to use as little energy as possible. | 1 | 2 | 3 | 4 | 5 |
| 15) Learn more about how my body works. | 1 | 2 | 3 | 4 | 5 |
| 16) Feel anxious about the things I can't do. | 1 | 2 | 3 | 4 | 5 |
| 17) Make plans for the future. | 1 | 2 | 3 | 4 | 5 |
| 18) Make sure I am warmly dressed or covered. | 1 | 2 | 3 | 4 | 5 |
| 19) Do what my doctor tells me. | 1 | 2 | 3 | 4 | 5 |
| 20) Fantasize about all the things I could do if I was better. | 1 | 2 | 3 | 4 | 5 |
| 21) Listen to music. | 1 | 2 | 3 | 4 | 5 |
| 22) Make my surroundings as quiet as possible. | 1 | 2 | 3 | 4 | 5 |
| 23) Try my best to follow my doctor's advice. | 1 | 2 | 3 | 4 | 5 |
| 24) Wish that the problem had never happened. | 1 | 2 | 3 | 4 | 5 |
| 25) Invite people to visit me. | 1 | 2 | 3 | 4 | 5 |
| 26) Be as quiet and still as I can. | 1 | 2 | 3 | 4 | 5 |
| 27) Be prompt about taking medications. | 1 | 2 | 3 | 4 | 5 |
| 28) Feel anxious about being weak and vulnerable. | 1 | 2 | 3 | 4 | 5 |
| 29) Surround myself with nice things (e.g. flowers). | 1 | 2 | 3 | 4 | 5 |
| 30) Make sure I am comfortable. | 1 | 2 | 3 | 4 | 5 |
| 31) Learn more about the most effective treatments available. | 1 | 2 | 3 | 4 | 5 |
| 32) Worry that my health might get worse. | 1 | 2 | 3 | 4 | 5 |

Thank you very much for your participation !

APPENDIX D

**PAR, INC. PERMISSION REQUEST FORM FOR THE USE OF
THE PAI**

August 11, 1999

Fotini Zachariades
Unit 37, Student Housing
Edith Cowan University
100 Joondalup Drive
Joondalup, Western Australia 6027

Dear Fotini Zachariades:

In response to your recent request, permission is hereby granted to you to reproduce up to 200 copies of the Depression, Somatic Complaints and Anxiety Scales from the Personality Assessment Inventory for use in your study entitled "Coping and the Psychological Sequelae of Health and Injury Related Problems Amongst Older Hospital Inpatients".

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