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**Perception of risk of depression: The influence of optimistic bias in a non-clinical  
population of women**

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A Doctoral thesis submitted to the School of Psychology, Victoria University as partial fulfilment  
of the requirements for the degree of Doctor of Psychology (Clinical Psychology).

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March 2005

## DECLARATION

This thesis does not incorporate any material written by another person except where due reference is made within the text.

This thesis does not incorporate without acknowledgment any material previously submitted for a degree in any University or other educational institution, and to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made within the text.

The ethical principles and procedures specified by the Human Research Ethics Committee of Victoria University and by the Australian Psychological Society's document on health research and experimentation have been adhered to in the preparation of this document.

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Rebecca Riseley

March 2005

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## ACKNOWLEDGEMENTS

The author acknowledges and thanks the participants involved in this study, for giving their time and sharing their thoughts and ideas.

I gratefully acknowledge the generous and invaluable support of my supervisor Associate Professor Bernadette Hood of Victoria University. I greatly appreciate the energy, interest, availability, encouragement and guidance throughout all stages of this project. Her supervision was greatly respected, and faith in me cherished. In addition, I would like to acknowledge the contribution of Dr Jennifer Rice, whose advice regarding the analytical components of the thesis was greatly valued. Further I would like to thank Professor Jill Astbury for her critical and concise review of early drafts.

I would like to thank my friends for their reassurance and support, and acknowledge the support of my fellow classmates. Finally, special thanks to my family, and in particular my long suffering husband Matthew, for their encouragement and unwavering faith in me.

Thank you all.

## ABSTRACT

Mental illness including depression has been estimated to account for 11% of the world's disease burden with the expectation that this figure will rise to in excess of 15% by the year 2020 (AIHM, 2002; Australian Health Ministers, 1998). Women have been reported to be twice as likely as men to experience depression, making depression a significant public health issue for women. How individuals perceive themselves to be at risk has important implications for understanding help seeking behaviour and in turn, diagnosis and treatment outcomes. A number of factors have been identified in the physical health literature that account for the way perception of risk is conceptualised. The present study was designed to explore perception of risk of depression from the perspective of optimistic bias. The work of Weinstein (1980) and Moore and Rosenthal (1996) identify factors such as perceived seriousness, perceived control, stereotyping, perceived commonness, knowledge of a sufferer, perceived knowledge of the illness and attitude to the illness, as potentially influencing a person's perception of personal risk. Weinstein (1980) developed a model for integrating these factors, called optimistic bias. This model has been studied in relation to perception of risk for cancer, sexually transmitted diseases and other physical illnesses, but not in relation to mental illness. Two conceptualizations of optimistic bias were tested in this study, i) as a series of semi-independent illness specific constructs, and ii) as a global personality construct. The value of the Weinstein model for predicting perception of risk of depression was explored in relation to three physical illnesses (HIV/AIDS, Diabetes and Breast cancer). In addition women's conceptualizations of depression were explored in relation to depressive status and ability to recognize typical symptoms of depression. A non-

clinical sample of one hundred and five women over the age of 18 were recruited with each participant required to complete a series of questionnaires that were quantitatively analysed. The model of optimistic bias as a series of semi-independent (state) constructs did significantly predict perception of risk for depression, accounting for 27.8% of the variance. The personality model of optimistic bias was also significant for predicting perception of risk of depression, but significantly less powerful accounting for only 8.2% of the variance. Part of the analysis for this study involved a replication of the work by Moore and Rosenthal (1996) utilising both descriptive and inferential data analyses to determine which variables predicted perception of risk of depression with two factors, perceived control and knowledge about the illness, revealed to be most significant. This study found that the illness specific model was more applicable to depression than to physical illness. Perception of risk was demonstrated by the comparative profiles to be different for each illness with the women in this study able to list a number of categories of stereotypical sufferers. A frequency analysis was also conducted to explore the similarities and differences in conceptualisation of the illnesses. Results indicated that 57% of women within the sample reported levels of clinical depression. Evidence emerged that among those who reported clinical levels of depression a subset were unable to recognise depression. A woman's depressive status and her ability to recognise depression from a scenario appeared to influence perception of risk. These results highlight important theoretical and applied implications for health promotion as well as the treatment and management of depression.

## CHAPTER ONE

### DEPRESSION

*'To be coming from that place, to be coming from a very shy, voiceless place, to be feeling rotten inside to the point where I ... felt like that inside was black, hard and brittle like coal or something... that I was rotten inside... nothing good... that there was no heart, that there was no insides, there was no anything, just stuff to hate' (Hurst, 1999, p. 182).*

#### **1. Introduction**

Depression is a major public health issue both globally and within the Australian context (Henderson & Rickwood, 2000; Hickie, 2002; Mathers, Vos & Stevenson, 1999; Outram, Murphy & Cockburn, 2004; Preboth, 2000; Rix, Paykel, Lelliott, Tylee, Freeling, Gask & Hart, 1999; Stoppard, 1999). The universal significance of depression is evidenced by World Health Organization data that estimates the illness currently affects about 121 million people worldwide (WHO, 2004). By the year 2020 depression will be second only to ischaemic heart disease as the largest contributor to the global burden of disease as measured by Disability-Adjusted Life Years (DALYs) (WHO, 2004). Sex differences exist in epidemiological rates of depression, with women almost twice as likely to experience a depressive disorder (Jenkins, 1987; Outram et al., 2004; WHO, 2004). Generally the nature of depression is complex, with impairment and symptom constellation varying markedly. Classification systems such as the Diagnostic and Statistical Manual of Mental Disorders –IV TR (2000) and the International Disease Classification System 10 (ICD-10), have listed criteria that must be present in order to determine a diagnosis of depression. Such classification

systems do not, however, conceptualise the individual experience of depression. The burden of depression in personal, social and economic terms is extensive (Hurst, 1999; McNair et al., 2002). Risk factors for depression appear multifaceted and interdependent across social, biological and psychological domains (Street, Sheeran, & Orbell, 1999). Despite the prediction that 60-80% of sufferers of depression can be effectively treated (WHO, 2004) less than 50% of individuals seek treatment (Andrews, Hall, Teesson, & Henderson, 1999). Barriers to treatment may be organisational, due to factors such as the inaccessibility and / or cost of treatment (Hickie, Davenport, Naismith & Scott, 2001) or may relate more to individual and community knowledge of and attitudes towards the disorder (WHO, 2000). A further critical influence upon individuals seeking treatment is the complex process of help seeking. For those failing to seek treatment, understanding motivations for engaging and / or failing to engage in help seeking behaviour is crucial. A key component of help seeking behaviour is the subjective acknowledgement of personal risk (Eiser, Eiser & Pauwels, 1993; Harris & Middleton, 1994; Keller, Lipkus & Rimer, 2002; McNair et al., 2002; Millstein & Halpern-Felsher, 2002; Moore & Rosenthal, 1996). There is currently limited understanding of the processes by which an individual understands their own level of risk for experiencing mental illness (Highet, Hickie & Davenport, 2002). The focus of this thesis involves exploring individual perception of risk for depression.

The Australian Institute of Health and Welfare (1998) stated the need for health research to be based in the community. The National Public Health Partnership (2001) suggested that strong evidence was emerging confirming the contribution of psychosocial factors, for instance sense of control and resilience, to a wide range of

health problems including chronic illnesses such as depression. Further this study suggested that it was difficult for ‘single issue’ strategies to address such factors adequately. This partnership identified strengthening the role of prevention, and improving detection and intervention as key public health priorities within the Australian community. The World Health Organization initiative on depression in public health prioritises a number of objectives to reduce the impact of depression. These objectives include the education of players (policy makers, providers, consumers and carers), reducing stigma, improving diagnosis and management and the development of policies to support improving care for depression (AIHW, 2002). This thesis will address these objectives by focusing on systematically modelling the various factors that women use to predict their personal risk of depression. Utilising a non-clinical community sample the thesis will adapt the work of Weinstein (1980, 1982, 1984, 1987) that has explored the concept of subjective perception of risk of physical illness, to the domain of mental health and specifically depression. This work provides a framework to predict the relative importance of a range of factors such as perceived seriousness, sense of personal control over the illness, perceived commonness, stereotypical representations of a depression sufferer, personal knowledge of a depression sufferer, knowledge of depression, and attitudes and beliefs about depression, in the assessment of personal risk.

This chapter will provide a review of the depression literature to establish the illness context within which this perception of risk model will be applied.

## **1.1 Epidemiology of depression**

### **1.1.1 International prevalence rates of depression**

As early as the 1970's Seligman was suggesting that clinical depression was the common cold of psychiatry due to its widespread nature (Seligman, 1975). Some two decades later prevalence rates for depression support this notion, with depression emerging as the leading contributor to the burden of disease attributed to mental illness (Henderson, Andrews & Hall, 2000). The lifetime rates for major depression vary across countries, ranging from 1.5 cases per 100 adults in a Taiwan sample to 19.0 cases per 100 adults in Beirut (Weissman et al., 1999). The annual rates ranged from 0.8 cases per 100 adults in Taiwan to 5.8 cases per 100 adults in New Zealand (Weissman et al., 1999). According to an American study examining epidemiological trends for depression, a 9.5% lifetime prevalence rate exists accounting for in excess of 11 million sufferers, of whom up to 71% were women (Berio, D'Ilario, Ruffo, Di Virgilio & Rizzo, 2000). Chiu (2004) argued that in China the 1year prevalence rate ranged from 1.7-2.5%, compared with Japan where the 1year prevalence was 3.1%. Another study in Zurich, carried out by Angst (1995) estimated a lifetime prevalence rate for depression greater than 14.4% in adults up to 30 years old (Berio et al., 2000). Kind and Sorensen (1993) reported that throughout England and Wales 2.75 million episodes of depression are experienced each year. Despite the variance in reporting methodologies and international prevalence data a clear pattern emerges of the global significance of this illness.

### **1.1.2 Australian prevalence rates of depression**

Depression is also a significant public health issue in Australia. The 2001 National Health Survey compiled by the Australian Bureau of Statistics identified that 4.7% of Australians had taken antidepressant medication in the two weeks prior to the survey, and went onto report a 9.6% National prevalence rate for depression (ABS, 2001). Of the 35.4% of adult Australians who are likely to experience a mental disorder in the course of any year, approximately 6% will experience a depressive disorder (Andrews et al., 1999; Australian Health Ministers, 2000). Australian lifetime prevalence rates for the illness are variable and their analysis and assessment has been prone to methodological problems (AIHM, 1998). In 2002, there were 3,172 deaths in Australia attributed to depression as an underlying cause, with a further 9,453 deaths associated with depression (AIHW, 2002). Chiu (2004) reported that 13 per 100,000 suicides per year in Australia could be attributed to depression. Australian research such as that reported by Hickie et al. (2001) has demonstrated that at any given point in time as many as 15-20 per cent of adults suffer significant depressive symptomology. Such community-based samples whilst highlighting the extent of the illness within the Australian community have still been criticised as underestimating the true prevalence of depression. In addition, Hunt, Auriemma and Cashaw (2003) argued that prevalence rates derived from community-based samples likely underestimate the true prevalence of depression.

### **1.1.3 Sex differences in prevalence rates for depression**

Depressive disorders are often chronic and recurrent, a major cause of impaired health; this is particularly relevant for women, as significant sex differences exist in the epidemiology of depression. Depression is reportedly the third most common cause of illness among women and the tenth most common cause for men (Hurst, 1999). Research such as that by Hurst (1999) and Chiu (2004) found that women in Western industrialised nations are almost twice as likely as men to have a depressive disorder (9.5% compared to 5.8%). Longitudinal research by Wilhelm, Parker and Hadzi-Pavlovic (1997) has linked this increased prevalence for women to the higher lifetime rates of depression rather than a greater number of episodes. The sex differences in depression remain consistent across age cohorts with rates for depression in adolescent and younger women particularly high (Australian Health Ministers, 2000; Brown & Harris, 1978; Chiu, 2004; Hurst, 1999). A study of Australian adolescents (Boyd, Gullone, Kostanski, Ollendick & Shek, 2000) revealed 14.2% of the adolescents were depressed, with a significant difference according to sex indicating a female preponderance. Similarly the Australian Institute of Health and Welfare (AIHW, 1998) recognised the worrying trend for the incidence rate of depression in girls exceeding that of boys. Further the WHO (2004) reported that in adolescence the sex differences for depression were greater than threefold with young women significantly more likely to experience depression. In addition through adulthood and old age, women were approximately two-to-threelfold more likely to experience depression (WHO, 2004).

According to the WHO (2004) most research into sex differences has explored male:female differences in prevalence. This is despite the early work of Weissman and Klerman (1977) who concluded that the epidemiological finding of a female preponderance in depression was ‘real’ and could not be reduced to artefacts of sex based differences in the presentation and reporting of the illness. Since then further and more rigorously conducted clinical and epidemiological studies have repeatedly confirmed that women suffer more often from depression than men (Bebbington, 1988; Jenkins, 1987; Meltzer, Gill, Petticrew & Hinds, 1995). The consistency of this finding contrasts with the lack of a definite explanation of these sex differences where for women specifically genetic influences, sex-specific role stress and endocrinological factors, either individually or within interactionist models, have all been implicated as explanatory factors (Gutierrez-Lobos, Wolf, Schere, Anderer & Schmidl-Mohl 2000).

The focus of this thesis on women’s experience of subjective perception of risk of depression is aligned with the body of research (Andrews et al., 1999; Eiser et al., 1993; Harris & Middleton, 1994; Hickie et al., 2001; Keller et al., 2002; McNair et al., 2002; Millstein. & Halpern-Felsher, 2002; WHO, 2000, 2004) that aims to understand and manage the emergence and impact of this illness within the female population.

## **1.2 The nature of depression**

### **1.2.1 The complexity of symptomatology**

Depression has been identified as a severely disabling condition with levels of functional and psychosocial impairment greater than that associated with chronic illnesses such as diabetes and arthritis (Hays, Wells, Sherbourne, Rogers & Spritzer, 1995). Depression has been reported as chronic in 10-25% of sufferers and a major source of disability in normal life and at work (Tylee, Gastpar, Lepine & Mendlewicz, 1999). Despite this morbidity, depression commonly goes unrecognised in clinical practice. That is in spite of research having demonstrated the significant proportion of the population who currently experience depression (Andrews et al., 1999; Australian Health Ministers, 2000). One of the complexities involved in understanding the individuals that make up this large group of unrecognised depression sufferers is the multifaceted symptomatology of depression. Symptoms are complex in that manifestations and constellations of symptoms can be divergent, interrelated and often unremarkable (Hunt et al., 2003).

The level of impairment as a result of depression has been demonstrated to increase as a function of the severity of the disorder (Lepine, Gastpar, Mendlewicz & Tyler, 1997). When an individual becomes clinically depressed, they are prone to feelings of sadness and tearfulness. In addition there is often evidence of irritability, anxiety and tension, accompanied by feelings of guilt and beliefs about letting others down (Fennell, 1993). The sense of worthlessness or guilt associated with depression may include unrealistic negative evaluations of one's worth or guilty preoccupations or ruminations over past failings. Clinically depressed individuals have a documented

negative self-image (Derry & Kuiper, 1981). From a symbolic interactionist perspective (Mead, 1934), depression was conceptualised as a loss of self, where the self was understood as experienced and constructed through social relationships (Lewis 1995). A further difficulty experienced by those with depression is a sense of powerlessness and the silencing of their true selves in intimate relationships (Lewis, 1995).

Depression has been well documented in relation to somatic manifestation of symptoms (Beck, 1967; Ludgate, 1994; Tylee et al., 1999; Wilhelm et al., 1997). For individuals who experience depression psychomotor function can be impacted with an inability to sit still, pacing and hand wringing; it can also be retarded with slowed speech, thinking and body movements (APA, 2000). When depression is at its worst, individuals may lose the ability to react emotionally, and find that good and bad feelings alike are lost in numbness. In a study by Tylee and colleagues (1999) over 76% of participants reported feelings of numbness, sadness and low mood. Further, 59% reported becoming increasingly emotional with a desire to cry a lot. It often becomes difficult to enjoy or to be interested in normal activities (Beck, 1967) with optimism about the future at least moderately affected (Outram et al., 2004). Energy is low, with 73% of participants in the Tylee et al. (1999) study reporting tiredness, low energy and listlessness, where everything seems like an effort, and people report exhaustion without physical exertion. In response to these difficulties many people begin to withdraw from the things they would normally do becoming anxious, nervous and fearful, and many spend long hours of inactivity (Beck, 1967). Ordinary pleasures become difficult and burdensome because it is hard to think and concentrate with memory reported to be impaired in 51% of cases (Outram et al., 2004). People

often become preoccupied with how bad they feel and with the apparently insoluble difficulties that face them. Even basic bodily functions may be disturbed. Sleep is difficult with a variety of insomnias possible including difficulty with sleep onset. Reports suggest that broken sleep and less sleep than normal occur in the majority of cases (63%) (Berio et al., 2000). In addition, general health was reported as moderately affected, as well as the ability to lead a normal life and to maintain friendships (Tylee et al., 1999). Appetite often declines and people report having to force themselves to eat. In others there is an increase in appetite with cravings for specific foods. Sexual desire significantly reduces and often disappears (Beck, 1967).

### **1.2.2 Systems of classification**

Within mainstream psychological approaches depression has been primarily conceptualised as a clinical problem contained within the individual. It has been objectively defined in symptom-based diagnostic and classification systems (Lewis, 1995). The Diagnostic and Statistical Manual IV – Text Revision (DSM-IV-TR) developed by the American Psychological Association (2000) is one such classification system that outlines the criteria for clinical diagnosis of depression. According to the DSM-IV-TR to count toward a Major Depressive Episode,

“A symptom must either be newly present or must have clearly worsened compared with the person’s pre-episode status. For some individuals with milder episodes, functioning may appear to be normal but requires markedly increased effort. The mood in a Major Depressive Episode is often described by the person as depressed, sad, hopeless, discouraged or ‘down in the

dumps'. Some individuals emphasize somatic complaints such as bodily aches and pains, rather than reporting feelings of sadness. Many individuals report or exhibit increased irritability including, persistent anger, a tendency to respond to events with angry outbursts or blaming others, or an exaggerated sense of frustration over minor matters" (APA, 2000).

Table 1 outlines the DSM-IV-TR criteria for diagnosis of a major depressive episode or depression. Similarly the DSM-IV-TR (Table 2) offers a classification of symptoms that count as an ongoing or recurrent depressive disorder.

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**Table 1. DSM-IV-TR Diagnostic criteria for major depressive episode**

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- A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.
- Depressed mood most of the day, nearly everyday, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).
- Markedly diminished interest or pleasure in all, or almost all, activities of the day, nearly everyday (as indicated by either subjective account or observation made by others)
- Significant weight loss when not dieting or weight gain (e.g., a change or more than 5% of body weight in a month), or decrease or increase in appetite nearly everyday.
- Insomnia or hypersomnia nearly everyday
- Psychomotor agitation or retardation nearly everyday (observable by others, not merely subjective feelings of restlessness or being slowed down)
- Fatigue or loss of energy nearly everyday
- Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly everyday (not merely self-reproach or guilt about being sick)
- Diminished ability to think or concentrate, or indecisiveness, nearly everyday (either subjective account or observation made by others)
- Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without specific plan, or a suicide attempt or a specific plan for committing suicide.
- B. The symptoms do not meet criteria for Mixed Episode
- C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning
- D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism)
- E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than two months or are characterised by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation
- 

Taken from Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Ed. Text Revision. (2000). Washington D.C: American Psychological Association, p. 376

**Table 2. DSM-IV-TR Diagnostic criteria for major depressive disorder, recurrent**

- 
- A. Presence of two or more Major Depressive Episodes  
Note: to be considered separate episodes, there must be an interval of at least 2 consecutive months in which criteria are not met for a Major Depressive Episode
- B. The Major Depressive Episodes are not better accounted for by Schizoaffective Disorder and are not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified
- C. There has never been a Manic Episode, a Mixed Episode, or Hypomanic Episode
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Taken from Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Ed. Text Revision. (2000). Washington D.C: American Psychological Association, p. 380

Symptoms of depression usually develop over days to weeks. A prodromal period that may include anxiety symptoms and mild depressive symptoms may last for weeks to months before the onset of a Major Depressive Episode (APA, 2000). The duration of such an episode is also variable. An untreated episode typically lasts 4 months or longer, regardless of age of onset. In a majority of cases there is a complete remission of symptoms, and functioning returns to premorbid levels. Partial remission following a Major Depressive Episode appears to be predictive of a similar pattern after subsequent episodes. In some individuals (5%-10%), the full criteria for a Major Depressive Episode continue to be met for 2 or more years (APA, 2000).

In a significant proportion of cases (perhaps 20%-30%), some depressive symptoms, insufficient to meet a clinical diagnosis of Major Depressive Episode, may persist for months to years and may be associated with ongoing disability and distress (Chiu, 2004). The DSM-IV has been criticised as not accounting for those individuals whose experience of depression falls outside of the criteria outlined in the DSM-IV (Stoppard, 1999). Despite this the DSM-IV criteria for depression provides a method for collating symptoms, which allows for the examination of similarities and differences to ensure the consistent application of interventions.

### **1.2.3 Types of depression**

As described above depression can present as a range of symptoms that are complex in that manifestations and constellations of symptoms are divergent, interrelated and often unremarkable (Hunt et al., 2003). While systems of classification have allowed for the systematic investigation of ‘patterns of symptoms’, they struggle to account for the ‘everyday’ experience of depression. Major depression, a common clinical presentation of depression is commonly understood to be a heterogenous condition (Haslam & Beck, 1994). Patterns of clinical presentation vary considerably, and there has been no shortage of attempts to render this variation intelligible. Theorists have proposed discrete subtypes of depression, although attempts to define symptom patterns inductively have often yielded equivocal or inconsistent findings (Haslam & Beck, 1994). When subtyping Major Depression, Haslam and Beck (1994) argued that evidence for an endogenomorphic type of depression has been strong and consistent but that further types have included neurotic, suicidal, anxious, characterological, agitated and hostile (Burke & Haslam, 2001; Haslam & Beck, 1994). Essentially this research has suggested that dependant or ‘sociotropic’ individuals, who are invested highly in personal relationships and social acceptance, are prone to depression in response to interpersonal threats. When depressed these individuals are reported to show a distinctive pattern of symptoms, which include prominent anxiety, depressed mood, helplessness, crying, and somatic concerns. Autonomous or self-critical individuals, in contrast, are invested in achieving personal goals and standards, are prone to depression when they fail to meet them, and show a pattern of symptoms that includes prominent guilt, hopelessness, and feelings of failure and worthlessness (Burke & Haslam, 2001).

In addition to the subtypes of Major Depression described by Haslam and Beck (1994) are a number of other clinical disorders including Major Depression, Bipolar Disorder, Dysthymic Disorder, Cyclothymic Disorder, Post Natal Depression and Seasonal Affective Disorder, that have all been posited to account for severe and extended feelings of sadness, dejection and hopelessness (Berio et al., 2000). The nature of these disorders varies from chronic, lasting long periods and marked by frequent recurrences, to episodic, with clearly discernable episodes of limited duration with breaks between recurrences. The range of experiences within each of these disorders can extend from a bad day, to a reactive affective experience, to a clinical and diagnosable condition. It should be noted that this research does not intend to examine the different types of depression nor the various levels of experiences of depression; rather it intends to explore depression from a perception of risk perspective. As such for the purposes of this research depression has been conceptualised and measured according to the clinical measure of the Beck Depression Inventory (BDI) (Beck & Steer, 1987).

### **1.3 The burden of disease**

The burden of mental illnesses such as depression has been seriously underestimated by traditional approaches to disease burden assessment that disregard disability and take into account only deaths (Mathers, Vos, Stevenson & Begg, 2000). Despite this underestimation depression has been demonstrated to contribute significantly to the burden of disease for industrialised countries both in terms of medical resources used to treat it and in terms of production losses due to work absenteeism, early retirement and premature mortality (Berio et al., 2000). A major finding of the Global Burden of

Disease project (Murray & Lopez, 1996) was the importance of mental disorders as a cause of disease burden. The project, a worldwide collaboration sponsored by WHO and the World Bank (1996) developed the Disability-Adjusted Life Years index (DALY index) to provide a measure of the impact of illness by combining the years of life lost due to premature death with the years of equivalent healthy life lost through disability. One DALY therefore becomes equivalent to one lost year of healthy life. The WHO characterises both the Year Lost to Disability (YLD's) and the DALY burden of depression concluding that

“Depression is the leading cause of disability as measured by YLDs and the 4<sup>th</sup> leading contributor to the global burden of disease (DALYs) in 2000. By the year 2020, depression is projected to reach second of the ranking of DALYs calculated for all ages, both sexes. Today depression is already the 2<sup>nd</sup> DALYs in the category 15-44 years for both sexes combined.” (Murray & Lopez, 1996).

Despite this stark evidence of the ‘burden of the illness’ of depression community responses rarely indicate that individuals with depression are accepted as being ill (McNair et al., 2002). While depressed individuals are at least as heavily disabled as individuals affected by other chronic diseases such as hypertension, rheumatoid arthritis and diabetes, they are often overlooked in terms of personal burden.

*‘Only sufferers know just how difficult it is, what it is like to be in a black hole with absolutely no emotion... it is common the hear people say: ‘you look fine! What’s your problem? Do something!’ Have these people ever looked in the*

*eyes of sufferers, dull and lacklustre? Do they see a smile or a tear? No. They save their compassion for the physically afflicted' (McNair et al. , 2002).*

Andrews, Sanderson, Slade and Beard (1998) and Andrews, Sanderson, Slade and Issakidis (2000) stated that the burden of disease persists for two reasons: too many people do not seek treatment and when they do efficacious treatments are not always used effectively. Subsequently depression is often a disenfranchised illness.

### **1.3.1 The economic burden**

Untreated depression is a very costly disorder with indirect costs constituting a substantial proportion (Hu, 2004). Treating depression requires financial resources to pay for the provision of health services, hospital stays, medications and counselling. Costs of illness include direct and indirect costs. Hu (2004) reported that the estimated cost of direct services treating depression within Australian in 1997-1998 was \$615 million dollars or 22% of the total cost for treating depression. Indirect treatment accounted for a further 78% of the total treatment cost or \$2.8 billion. Similarly in the United Kingdom direct costs of treatment relating to depression accounted for £417 million (Berio et al., 2000; Simon, Vonkorff & Barlow, 1995). Within direct costs, the major cost driver was hospitalisation, which represented something between 43% and 75% of the average per patient cost, with drug treatment accounting for only 2%-11% (Berio et al., 2000). 2002 estimates suggest a trend of increasing economic costs attributable to depression (AIHW, 2004). The cost reported of \$3 billion represented 7% of the allocated health budget (AIHW, 2004). Across Europe depression has been identified as the most common illness presentation to primary health care providers

with sufferers of major depression estimated to make three times as many visits to their general practitioner as non depressed patients (Lepine et al., 1997). People with depression generate twice the healthcare costs of other primary care attendees; high even after the impact of co-morbid conditions is controlled (Rix et al., 1999). In terms of the average cost per patient, depression imposes a societal burden that is larger than other chronic conditions such as hypertension, rheumatoid arthritis, asthma and osteoporosis (Berio et al., 2000).

### **1.3.2 The personal burden**

*Even when the blue lifts and you realise that your friends and family would grieve on your death, not be relieved, reaching out can still be the most difficult thing to do (Depression sufferer, personal correspondence).*

Separate to the economic costs of the illness the personal cost of depression to the individual, their family and society is substantial (Goldney, Fisher, Dal Grande & Taylor, 2004). Research has shown that ‘days out of role’ due to depression can include absenteeism from employment, disturbance of sleep and appetite, disinterest in family/social activities and greater utilisation of public health facilities (Boyd, Weissman, Thompson & Myers, 1982).

In terms of employment, people with depression have difficulties coping with the demands of work or finding employment because of their depression (Outram et al., 2004). The World Health Organization Collaborative Study reported that primary care attendees with an ICD-10 depressive disorder had experienced a mean of 8 days of

disability during the previous month; this compared to 2 days among those with no psychiatric illness (Tylee et al., 1999). The inability or unwillingness to view depression as an illness has major repercussions in the workplace, resulting in overt and covert discrimination, ensuing in an inability to get work, or then being undermined and unable to get promotions (McNair et al., 2002). Partners of people with depression have difficulties because of the burdens of looking after their spouse while keeping up with work demands (Goldney et al., 2004).

The experience of depression impacts significantly on family life. Rix et al. (1999) reported that people with depression and partners of people with depression experience less satisfaction with their relationship, are less positive about their partner, have decreased communication in their relationship, experience less satisfying sexual intimacy, and generally feel less engaged with their partner than non-depressed couples. Rix et al. (1999) further reported that individuals with depression had difficulties coping with the demands of their children when they were unwell. Some people with depression felt pressured by their partner to have children, but did not want to have children, due to the fear of passing on the pain of their illness to their child. Sufferers of depression reported that they felt guilty because of their symptomatology, as they felt that this made it difficult for their partners to live with them, but they did not know how to change. They also reported feeling socially isolated and considered that they had more stressors in their relationships when compared with the general population (Rix et al., 1999).

*'I felt particularly guilty towards my wife and my children who had to look after me each day when I left the ward' (Wolpert, 1999, cover)*

Hurst (1999) concurred and reported that women in particular, who experienced depression and its related symptoms, described a negative impact on interpersonal relationship including relationships with sexual partners and children. In addition, the personal suffering of guilt, low self-esteem, powerlessness, worthlessness, hopelessness and isolation (real and implied) become part of the lived experience of women for many sufferers (Stoppard, 1999).

*(Being isolated) 'that's depression, that's what my opinion is. You have nobody to talk to, you're there, you feel left out...left out of the world, you know? Because to me, locked up in that room, depression is, when I was locked up in that room and nobody to talk to' (Hurst, 1999, p. 186).*

*'No one cares. I'm useless, no one wants me, no one loves me, no one cares about me... feeling you're not worth anything, you can't do it' (Hurst, 1999, p. 182).*

There is substantial stigma associated with the diagnosis of depression (Goldstein & Rosselli, 2003; Sims, 1993). Family members, like members of the wider community, may not believe or understand that depression is an illness. Rather they tend to see depression as normal sadness, a transient response to difficult circumstances or a self-correcting period of psychological distress (McNair et al., 2002). More seriously depression may be interpreted as a personal inadequacy rather than an illness,

*'Physical illness happens to me, but depression is perceived to be a weakness within me' (Goldney et al., 2004, p. 297).*

Depression is a personal and complex experience with the meaning of a diagnosis being seen as variable, ranging from providing a sense of relief to stigmatising, pathologising and burdensome (Lewis, 1995).

*'The sense of relief, that I knew I wasn't going round the bend and that I wouldn't have to put up with this forever, and also the fact that it spurred us into taking some action about getting away from it, that's positive.... It never occurred to me that I could be depressed; I just thought that I was a nasty person' (Lewis, 1995, p. 373).*

*'I think I really was quite shocked and I didn't know how to tell my wife... I had to pluck up the courage to do it you know... because you hear about people with depression, you don't think you're one of them' (Lewis, 1995, p. 374).*

#### **1.4 Aetiology of depression**

Within clinical psychology the aetiology of depression has been a focus for growing theoretical speculation (Astbury, 1996; Brown, 1998, 2002; Brown & Harris, 1989; Brown, Harris & Eales, 1996; Brown, Harris & Hepworth, 1995; Seligman, 1975). While generally the causes of depression are unclear (Wolpert, 1999), it has been widely acknowledged that it is likely that no single factor can adequately explain the

occurrence of depression, but rather vulnerability to depression results from an interaction between many different sources (Brown, 1998, 2002; Fennell, 1993). Risk factors associated with the onset and prognosis of depression have been shown to relate to a variety of biological (non modifiable), historical (non modifiable), environmental (modifiable) and psychosocial (modifiable) variables these include being a woman, being less educated, being single, having another psychiatric illness, being employed as a homemaker, having suicidal behaviour (ideation or attempts), substance abuse, alcoholism, stress, conflicted or abusive relationships, life dissatisfaction, physical difficulties, decreased function, feelings of helplessness, a familial psychiatric history, disturbances in neurotransmitter functioning, early parental loss or neglect, recent negative life events, lack of a close confiding relationship, lack of adequate social support and long term lack of self esteem (AIHW, 2004; Astbury, 1996; Boyd & Weissman, 1982; Brown, 1998, 2002; Frank & Dingle, 1999; Hickie, 2002; ; Miller & Seligman, 1975; Outram et al., 2004; Street et al., 1999; WHO, 2000). The Australian Institute of Health and Welfare (2004) advocates for consideration of vulnerability factors, while Brown (2002) highlighted the role of shame, humiliation and entrapment in the development of depression.

#### **1.4.1 Biological attributions**

From a biological perspective the pathophysiology of depression may involve a dysregulation of a number of neurotransmitter systems, including the serotonin, norepinephrine, dopamine, acetylcholine, and gamma-aminobutyric acid systems (Preboth, 2000). There is also evidence of alterations of several neuropeptides, including corticotropin-releasing hormone. In some depressed individuals, hormonal

disturbances have been observed, including elevated glucocorticoid secretion and blunted growth hormone, thyroid-stimulating hormone, and prolactin responses to various challenge tests (APA, 2000). Despite the burgeoning interest in these biomedical models, Wolpert (1999) cautions that these findings may well be confounded by methodological problems such as the relatively small sample sizes and the failure to take into account natural variation. Further studies examining biological attributions for depression generally rely on depressed individuals and rarely conduct comparative analyses with non-clinical populations. These studies are often retrospective examining brain structure after the onset of depression with little consideration for the confounding effects of age, alcoholism or emotional neglect (Herbert, 1997).

Functional brain imaging studies document alterations in cerebral blood flow and metabolism in some individuals, including increased blood flow in limbic and paralimbic regions and decreased blood flow in the lateral prefrontal cortex (Drevets, 1998). Depression beginning late in life is associated with alterations in brain structure, including periventricular vascular changes (APA, 2000). Common medical causes of depression include; low thyroid function, brain injuries and diseases including; stroke, head injury, epilepsy and Parkinson's disease; some forms of cancer, infectious diseases, blood vessel disease in the brain due to diabetes and/or hypertension, some steroid and hormonal treatments, chronic pain and cessation of smoking (Preboth, 2000). Interestingly, despite these growing physiological attributions for the illness, McKeon and Carrick (1991) reported that only 9% of public respondents identified chemical imbalance as a possible aetiological factor for depression with public attitudes toward the illness more focussed on social and

intrapersonal factors.

#### **1.4.2 Social attributions**

Many people within the community assume that depression can be caused by recent social or personal difficulties (Boyd et al., 1982; Brown & Harris, 1978; Brown et al., 1995). However, it has been proposed that depression is often caused by an interaction between recent events (external) and other personal factors (internal) (Brown, 1998). Research indicates that recent life stressors including humiliation and entrapment - separation from a core tie, a delinquent act by someone close, a put down, loss and danger - are as important as chronic difficulties such as long-term unemployment or living in an abusive or uncaring marriage (Brown, 2002; Brown et al., 1995; WHO 2000). Tylee and colleagues (1999) reported that problems in relationships with family and friends accounted for 31% of participants' causal attributions. Their study revealed that stress and accumulated stress accounted for 36% of depression causes for participants, physical illness and associated problems accounted for 33%, illness and/or death in the family accounted for 26%, finally financial problems accounted for 22% of causal attributions.

Depression was described by Preboth (2000) as a genetic risk, with symptoms often occurring in families and across generations within a family. However, such genetic effects did not mean that an individual would automatically experience depression if a parent or close relative had the illness. Preboth (2000) considered that the circumstances of life were more likely to affect an individual's chances of becoming depressed. In addition, certain personality styles were demonstrated to increase an

individual's risk of developing depression. Personality traits associated with developing depression include, those predisposed to worry, perfectionistic personalities, those sensitive to criticism, those who respond passively, individuals with low self esteem, self critical and pessimistic individuals and the shy and socially isolated (AIHM, 1998; Jorm et al., 2002).

Threatening life events are known to be capable of provoking distress, but sometimes this distress becomes depression. According to this view depression occurs when an event disrupts a role that had been primary in providing the basis for a person's sense of self and there are no alternatives that allow that sense of self to be maintained (Astbury, Brown, Lumley & Small, 1994; Oatley & Bolton, 1985; WHO 2000). Provoking agents increase the risk of depression by posing threats to selfhood, where the sense of self is realised in a role or roles. A role provides an identity and is bound up with personal goals, plans and expectations (WHO, 2000). Brown and Harris (1978) supposed that a woman's idea of herself was dependent on her role an argument supported by WHO (2000) and extrapolated in research by others (AIHW, 2002; Astbury, Brown, Lumley & Small, 1994; Brown & Harris, 1978; Brown et al., 1995; Oatley & Bolton, 1985). Vulnerability to depression was thought to stem from a real or perceived threat to role, resulting in a feeling of hopelessness. Mead (1934) emphasised the idea of role in the conception of self. The sense of self was reported to depend on an internal representation of previously external relationships. "Inner consciousness is socially organised by the importation of the social organization of the outer world" (Mead, 1934 p. 141). A role supported an experience of selfhood insofar as (a) it fulfilled central or self-definition goals of feeling valued or respected, and (b) it was enacted with an actual other or others who play the parts specified for

them satisfactorily. If this role were ‘compromised’ then the role by which a person defined themselves would be subject to collapse, resulting in a loss of sense of self and the emergence of symptoms of depression (Brown & Harris, 1978; Brown et al., 1995; Oatley & Bolton, 1985). Depressive symptoms according to this theory could be manifested in aspects of loss of sense of self, a set of emotions and a set of strategies for interaction with others. Within the social perspective, a number of studies implicated the psychosocial environment, specifically the presence of severe negative life events occurring before the onset of depression, in the development and course of depression (Brown & Harris, 1989).

#### **1.4.3 Interactionist approach**

General practitioners, drawing on the medical model of depression, might suggest that depression has a biochemical cause, and on this basis a person who has been medically diagnosed as depressed might assume that there is a biochemical explanation. The biochemical model may be particularly powerful in explaining the physical effects of depression. But it is not necessarily convincing for patients as an explanation of depression. This reinforces the mind/body split and perpetuates the objectification of depression (Lewis, 1995). Wolpert (1999) argued that the danger of separating explanations of depression was the risk that individuals would become ‘brainless minds’ or ‘mindless brains’. The ways in which depression is accounted for has implications for the constructions of self and subjectivity. The biological explanation may be liberating because it establishes a cause of depression that is within the individual but outside the individual’s control. However within the biological model, depression is constructed as pathology contained within the

individual, and as a result the individual is pathologised. On the other hand the social model establishes reasons for depression that are external to the individual, but may implicitly suggest that the individual is at fault for failing to cope. It shifts the focus of explanation from the scientific discourse used in the biological model to a discourse of personal socio-moral inadequacy (Lewis, 1995).

Individuals themselves often try to find reasons for their depression, as part of a more general search for the meaning of their experiences. The identification of a cause or reason for depression offers the hope of understanding and resolving depression. The identification of depression as an illness, for which one is not personally responsible, can be a relief and may lead to expectations of explanation and resolution (Lewis, 1995). Some individuals tended to use individualised explanations of depression rather than looking at their personal circumstances. Given that depression can be conceptualised as a change of state, the meaning of the change will have an effect on how it is expressed (Gilbert, 1992). This has several implications for health professionals. It is important for those working with individuals who are depressed to understand what is experienced in depression and the meaning of those experiences for the sufferer. Hood, Egan, Gridley and Brew (1999) showed that a shared understanding is critical to positive treatment environments. How persons themselves understand a change in their state has implications for their behaviour, and this affects their apparent symptoms and how their problems are identified and classified. It also has implications for identifying appropriate treatments and for understanding the effects of communication about depression as part of the treatment process. The problem of depression maybe identified through the diagnosis and medical discourse,

but the diagnosis itself has meaning (Lewis, 1995).

### **1.5 A review of the complexity of depression**

In summary, depression as an illness is common and serious, with epidemiological research demonstrating high prevalence both nationally and internationally. The evidence indicates that the burden of disease relating to depression in Australia is likely to increase significantly in the future. There also exists striking evidence that women are at significantly higher risk for lifetime rates of depression than men however how depression is conceptualised and the meaning associated with these experiences is unclear, and research has largely failed to consider subjective experiences.

Depression clearly carries a substantial burden for both the individual and the community. The economic burden of depression can account for the direct costs of treatment and management, as well as the indirect costs such as absenteeism and premature mortality. The personal burden of depression reflects the costs sustained by individuals and their families including less satisfaction with life, difficulty coping with the demands of everyday life and feelings of guilt, worthlessness, failure and isolation.

While depression has been recognised as a heterogeneous condition, there is currently no consensus about how best to describe its variation or to understand why up to 50% of sufferers fail to seek treatment. Biological attributions argue for chemical imbalances, structural abnormalities and medical causes for depression. Social

attributions argue for a psychosocial perspective, while an interactionist approach considers depression to result from a series of transactions within a biopsychosocial context.

The next chapter will discuss help seeking behaviour with particular attention paid to help seeking within a health context, models exploring help seeking behaviour and barriers to help seeking.

## CHAPTER TWO

### HELP SEEKING BEHAVIOURS FOR DEPRESSION

*Depression can leave you feeling very alone, in a dark world which appears to be a whirlwind of emotions that at times does not seem to end, though I have learnt through my experience there are rays of light which pierce the darkness... despite not knowing what reaction to expect, I sought help, I knew that it was one of the many steps I had to take to help myself (McNair et al., 2002, p. 76).*

#### **2. Introduction to patterns of help seeking**

Despite the clear burden of disease associated with the lived experience of a mental illness, such as depression, research suggests that the majority of people with psychological problems, even problems of a debilitating nature, fail to engage in health behaviours such as help seeking and indeed never seek help from a mental health professional (Howard et al., 1996; Lepine et al., 1996; Snyder & Ingram, 1983). International research indicates that up to 72% of people with a mental disorder do not seek help, further, of those with a diagnosed mental disorder, primarily depression and anxiety based disorders, only 46% sought help with the management of symptoms post diagnosis (Bland, Newman & Orn, 2003). Within the Australian context it is estimated that as many as 62% of people with a mental disorder do not seek any professional help (Andrews et al., 1999). Of the 800,000 Australians estimated to experience depression each year less than 40% of affected individuals present for care and fewer than one in six receive an evidence-based

treatment (Andrews, 2001). It seems that many people with depressive symptoms may recognise that they are ‘out of sorts’ but either feel that they should cope with it themselves, or that physicians are not able to help (Andrews et al., 1999). Conversely, those who do present for care are more likely to have relapsing and chronic disorders (Hickie, Davenport, Hadzi-Pavlovic, Koschera, Naismith, Scott & Wilhelm, 2001).

The National Health Priority Areas Report (AIHW, 1998) identified the recognition and management of risk and early symptoms of depression as key areas in the prevention and management of depression. They argued that at the most basic level, the public must have the skills and knowledge that enable them to recognise depression, to undertake appropriate self-care, to utilise informal supports, and to seek effective professional help if necessary.

Management of depression is then, in part, dependent on facilitating public recognition of the need to seek help at early stages of the illness. Current knowledge of the interaction of factors that facilitate and / or inhibit help seeking behaviours for mental illness globally, and depression specifically is limited and fragmented. In contrast substantial work has been undertaken exploring help seeking behaviours across a range of physical illness domains and a number of theoretical models including the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), the Theory of Planned Behaviour (TBA) (Ajzen, 1991) and the Health Belief Model (HBM) (Hochbaum, Kegels & Rosenstock, 1952) have been used to understand and subsequently predict help seeking behaviours (Conner & Norman, 1996; Rickwood & Braithwaite, 1994). This chapter will explore the concept of help seeking behaviour, attempting to both identify some of the critical concepts emerging from work in the

area of physical illness and review the current status of knowledge of help seeking behaviours within the mental health context. This review will establish that understanding help seeking behaviour involves consideration of the influential role of perception of risk of illness, a critical focus of this thesis.

## **2.1 The concept of help seeking behaviour**

Help seeking is a term that is generally used to the behaviour of actively seeking help from other people (Rickwood, Deane, Wilson & Ciarrochi, 2005). It is about communicating with other people to obtain help in terms of understanding, advice, information, treatment and general support in response to a problem or distressing experience. Help seeking is a form of coping that relies on other people, and is therefore often based on social relationships and interpersonal skills. Help can be sought from a range of sources varying in their level of formality. Informal help seeking is from informal social relationships, such as friends and family. Formal help seeking is from professional sources of help including professionals who have a recognised role and appropriate training in providing help and advice (Rickwood et al., 2005).

Specific help seeking behaviour for medical and psychiatric complaints has been conceptualised as a process through which an individual passes (Jordan & Oei, 1989). Jordan and Oei (1989) described a sequence of events, actions and reactions, self appraisals and appraisals by others, and suggested that for any individual, the point at which some form of help is sought represents a stage in the process that is dependent upon a complex interplay of intra and extra personal influences which may include

personal, social and cultural factors. The most frequently cited trigger across all help seeking experiences by women in a United States study was a change in physiology, followed closely by the influence of others (Jordan & Oei, 1989). Physical damage and / or negative social or personal consequences have also been identified as major influences on the decision to seek help (Millstein & Halpern-Felsher, 2002). Lay beliefs about the relative importance of receiving professional help, the stigma associated with treatment and a preference for implementing other coping methods in managing illness may also be of particular relevance for help seeking behaviours for psychological problems (Conner & Norman, 1996; Rickwood & Braithwaite, 1994; Ross & Hardy, 1999).

Social psychological research has attempted to identify the variables that moderate the relative self-threat associated with help, which determine an individual's willingness or reluctance to engage in help seeking behaviour (Nadler, 1987). Early studies such as that by Tessler and Schwartz (1972) centred on the effects of task and context characteristics and found that individuals are more willing to seek help when the helping context allows them to stay anonymous or when they believe that the task on which they need help reflects inadequacy on a non-ego relevant, rather than an ego relevant psychological dimension. The ego relevance of the aid related task determines whether or not seeking help has self-threat potential. Only when the task on which one needs help is ego-central does seeking help have an ego threat potential (Nadler, 1987). Nadler (1987) went on to suggest that when seeking help reflects a perceived ego-central dimension, such as intelligence, the implications of relative inferiority associated with seeking help are potentially self threatening. Essentially this research suggests that individuals avoid seeking help because of a perceived

threat to their view of themselves. Raviv, Sills, Raviv and Wilansky (2000) concurred that self-image is an important personality factor modifying help seeking behaviour. Carlton and Deane (2000) explored additional personality dimensions of not seeking professional help and suggested that ‘help negation’ was the refusal to accept or access available helping resources as a likely function or manifestation of patient hopelessness, pessimism and cynicism regarding efficacy of treatment.

Another line of research such as that by Ciarrochi, Deane and Wilson (2002) has examined the effects of characteristics of the recipient on his or her willingness to seek help and found that both the recipient’s personality and demographic characteristics will influence this behaviour. For example, an individual’s self esteem and achievement motivation, as well as their social class and sex predict differential levels of help seeking (Brown, 2002; Haley, Drake, Bentall & Lewis, 2003; Nadler, 1983).

Research has generally demonstrated that engaging in specific help seeking behaviours is primarily mediated by the presence of need, whereas overall attitude to help seeking reflects a more general propensity to seek care (Lyu, 1999). Need predictor variables for psychological problems included an individual’s self-assessment of having mental health problems and their level of psychological distress. Rickwood and Braithwaite (1994) stated that level of psychological distress significantly predicted professional consultation. Various authors including Ciarrochi, Wilson, Deane and Rickwood (2003) have suggested that many individuals could accommodate numerous symptoms of psychological distress for some time without seeking help, and that in fact it is only when they encounter the added stress of other

factors, for example, in their work or personal life, that they decide to seek professional help (Carlton & Deane, 2000, Parslow & Jorm, 2000, Rickwood & Braithwaite, 1994). Parslow and Jorm (2000) went onto argue that need factors often override predisposing and enabling factors in explaining levels and patterns of utilisation of mental health services (Parslow & Jorm, 2000). However, despite the potential for need factors to override other factors Lyu (1999) stated that it was important for treatment outcomes to learn more about the characteristics of help-seekers, their motivations, their help seeking processes, and the kinds of help they seek.

## **2.2 Help seeking within a global health context**

Help seeking behaviour has been extensively examined in a number of physical health areas. Research such as that by De Noouer, Lechner, and De Vries (2001) examined help seeking for cancer sufferers and found that the majority of participants delayed seeking help for their symptoms despite identifying one or more cancer warning signs. Sheikh and Ogden (1998) stated that although participants reported fair knowledge about cancer symptoms and warning signs, this knowledge alone was not entirely predictive of help seeking behaviour. When exploring the relationship between HIV and help seeking, Mason and colleagues (1997) noted that a positive diagnosis did not always predict disclosure of HIV status, or help seeking for social support. Outram and colleagues (2004) argued that need was a key predictor of help seeking behaviour and emphasised that engaging in protective behaviours represented an early stage of help seeking. Taylor (2004) concurred suggesting that help seeking was largely dependent upon acknowledging ‘at risk’ status and engaging appropriate protective

behaviours. Further research has examined the role of protective actions, particularly in relation to physical health issues such as HIV AIDS, skin cancer, diabetes, heart attack, obesity, smoking related cancers, drug and alcohol related illnesses and sexually transmitted diseases (Davidson & Prkachin, 1997; Eiser et al., 1993; Harris & Middleton, 1994; Maher & Rickwood, 1997; Van Der Velde, Hooykaas & Van Der Pligt, 1992; Weinstein, 1982, 1983, 1987).

According to Eiser and associates (1993) previous research has identified a number of factors predictive of self-protective behaviours including help seeking in different health related contexts. These factors include judgements of individual susceptibility, the seriousness and treatability of any medical condition, and the effectiveness of protective actions. For example, Eiser and colleagues (1993) reported that protecting oneself from the sun was related to knowledge about skin cancer, knowing someone with skin cancer and higher levels of anxiety.

### **2.3 Models exploring help seeking behaviour**

In the area of physical health, not only have factors predictive of help seeking been recognised and researched but also the interaction of these factors on the dependent variable of help seeking has been extensively explored using predictive models (Conner & Norman, 1996). The notion that individuals have complex but consistent ways of making sense of their illnesses and have highlighted beliefs about causes, consequences, time line, illness identity and control are the central dimensions to social-cognitive models such as the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), the Theory of Planned Behaviour (TPB) (Ajzen, 1991) and the

Health Belief Model (HBM) (Sheikh & Ogden, 1999). Models of health behaviour such as these typically assert that perceptions of high personal risk will increase the likelihood of precaution adoption, such as help seeking, across populations (Ajzen & Fishbein, 1980; Jordan & Oei, 1989; Moore & Ohtsuka, 1999; Ratliff et al., 1999).

### **2.3.1 The Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB)**

The Theory of Reasoned Action (TRA) has been studied extensively in relation to preventative health behaviours, yet almost exclusively in the physical health domain (Noar & Zimmerman, 2005). The TRA model has been demonstrated as successful for predicting current risk behaviours and behaviour changes in many physical health areas (Ajzen & Fishbein, 1980; Albarracin, Johnson, Fishbein & Muellerleile, 2001; Godin & Kok, 1996; Hagger, Chatzisarantis & Biddle, 2002; Hausenblaus, Carron & Mack, 1997). Indeed, a meta-analysis of the TRA conducted by Noar and Zimmerman (2005) revealed that the TRA model of health behaviour accounted for between 30% and 40% of the variance, demonstrating the model's empirical veracity.

The TRA model argues that in order to form an understanding of help seeking behaviour it is necessary to consider the interactive relationship between behaviour, attitudes and beliefs. The TRA describes this complex relationship and outlines the critical factors associated with the formation of attitudes and beliefs, and their influence on behaviour (Ajzen and Fishbein, 1980). The TRA model assumes that behaviour is a function of behavioural intentions, which are, in turn, a function of attitudes and subjective norms concerning that behaviour. Attitudes according to this

model are a function of an individual's beliefs about the consequences of performing the behaviour, multiplied by his/her evaluations of these consequences. Subjective norms are an individual's perceptions regarding the extent that specific others would approve of the behaviours and the motivation to comply (Moore & Ohtsuka, 1999; Ratliff et al., 1999).

According to this model 'health behaviour', in this case help seeking, is the direct result of behavioural intention. The TRA model is useful for understanding health behaviours such as help seeking for two primary reasons; first, the TRA provides a model that directly links beliefs and attitudes to behaviour, second it provides an intricate description of people's intentions with respect to health behaviours. Ajzen (1991) observed that the TRA was particularly valuable when describing behaviours that were primarily under volitional control. The main limitation noted in the TRA was that for behaviours over which people have incomplete volitional control the performance of the model was compromised. Ajzen (1991) noted that most behaviours were located at some point along a continuum that extends from total control to a complete lack of control. A person was deemed to have total control, if there were no practical constraints to the adoption of a given behaviour. At the opposite end of the continuum, if adoption of the behaviour requires opportunities, resources, or skills that are currently lacking, the person has a complete lack of control. To take into account such limitations, whether real or perceived, Ajzen (1991) added an additional element to the original TRA model, the concept of perceived behavioural control and developed the Theory of Planned Behaviour (TPB). When this revised model was examined via meta-analysis, it was demonstrated to account

for up to 19% more of the variance, further increasing the validity of the model (Noar & Zimmerman, 2005).

Perceived behaviour control can influence intention, as can the attitudinal and normative components described by the original TRA model (Godin & Kok, 1996). Attitude towards the behaviour has been described as an expression of a person's positive or negative evaluation of performing a given behaviour. The perceived subjective social norm reflects personal perception of the social expectations to adopt a given behaviour. Finally perceived behavioural control reflects personal beliefs as to how easy or difficult performing the behaviour is likely to be (Ajzen, 1991). This variable is assumed to reflect external factors including availability of time/money, social support etc, as well as internal factors including ability, skills and information (Godin & Kok, 1996). As such a large component of this variable is self-efficacy, believed to be conceptually related to perceived behavioural control. Self-efficacy has been defined as a person's belief in their capabilities to achieve different levels of performance attainment. People's beliefs in their efficacy effect the choices they make, how much effort they exert, how long they persist in the face of difficulties, their vulnerability to stress and depression and their resiliency after setbacks (Godin & Kok, 1996).

The TRA and TPB models have been extensively applied to physical health concerns including condom use among students (Basen-Engquist & Parcel, 1992), sunbathing and sunscreen use (Hillhouse, Stair & Adler, 1996), use of oral contraceptives (Doll & Orth, 1993), breast self-examination in older women (Lierman, Young, Kasprzyk & Benoliel, 1990), exercise (Gatch & Kendzierski, 1990), participation in cancer

screening programs (DeVellis, Blalock & Sandler, 1990), AIDS related behaviours (Fisher, Fisher & Rye, 1995) and smoking in adolescence (Maher & Rickwood, 1997). A review paper by Godin and Kok (1996) examined the TPB in relation to health-related behaviours and their review exclusively contained studies in relation to physical health conditions including addictive behaviours (smoking, alcohol, drugs), automobile-related behaviour (drink driving, speeding, risky overtaking), clinical and screening behaviour (mammograms, cancer screening, HIV exams), eating behaviour (vegetables, fruit, avoiding caffeine), exercising behaviour (jogging, exercising), HIV/AIDS behaviour (having/abstaining from sex, using condoms) and oral hygiene behaviour (brushing teeth, flossing teeth). Interestingly, while the TRA and TPB have been applied extensively in physical health research (Godin & Kok, 1996; Harris & Middleton, 1994; Davidson & Prkachin, 1997, Sims, 1993), there have been few applications in mental health research.

### **2.3.2 The Health Belief Model**

Another model that attempts to explain decision making in relation to health behaviours is the Health Belief Model (HBM). The HBM was one of the earliest frameworks to take into account the influence of individual values and expectations on health-related behaviour (Hochbaum et al., 1952). Research utilising the HBM has considered its archetypal pattern for the evaluation of individual's behaviour changes in relation to health conditions.

Central to the functioning of this model is the avoidance of a negative health outcome (Conner & Norman, 1996). Since its original inception in the 1950's, the model has

been modified to include internal and external cues to behaviour, the concept of motivation, and the indirect effects of demographic structural, social and personality variables. According to this model the following factors influence health-related behaviour including a readiness to be concerned about health matters, perception of relative susceptibility to illness (perception of risk), perceived severity of the illness and its consequences (perceived seriousness), beliefs regarding the perceived benefits or relative efficacy of treatment or alternative actions (perceived benefits), beliefs about potential barrier/costs (physical, economic, or psychological) of taking action (perceived barriers), and reactions to cues or critical incidents that can trigger health-related behaviour (Jordan & Oei, 1989). The HBM focuses on the social psychology of decision making, primarily on the role of motivations, beliefs, and perceptions on individuals' decisions to seek formal medical care (Pescosolido, 1992). The HBM describes health behaviour decisions as an individual's analysis of susceptibility to disease (perceived risk), disease severity, and relative costs and benefits of health threat reducing actions. For example, perceived social, psychological, and physiological benefits or costs (Ratliff et al., 1999). Interestingly motivational conflicts associated with gender, sexual behaviours, emotional reactions, and the importance of social context have all been identified as limitations for the HBM. A further limitation of the HBM has been its failure to consider intention to act (Conner & Norman, 1996).

Noar and Zimmerman (2005) reviewed meta-analyses of the HBM and found that supported existed for the theory, particularly in relation to susceptibility and benefits (Becker, 1974; Janz & Becker, 1984; Harrison, Mullen & Green, 1992). They argued that this model demonstrated statistically significant, although small correlations, with

significantly large effect sizes ranging between 8% and 15%, although the HBM has been demonstrated to limit efficacy in situations where individuals are neither concerned nor afraid of negative health outcomes (Conner & Norman, 1996).

As demonstrated much research has been undertaken exploring help seeking behaviour in physical health areas including the development of predictive models to explain behaviour, relatively less research has been undertaken in the area of mental health, and in particular in the area of depression (Haslam, 2005).

#### **2.4 Help seeking in mental health**

Outram and associates (2004) argued that help seeking in mental health was similar to help seeking in physical health, in that they are both need driven. Despite statements such as these comprehensive examinations of help seeking behaviour in the mental health area are relatively infantile. Perhaps that is because surveys show that the International and Australian communities do not view mental health as one of their major general health issues (AIHW, 1998; Highet et al., 2002). Rather traditional health areas such as cancer and heart disease attract greatest recognition.

The literature that does attempt to explore help seeking behaviour in mental health has focussed on the factors that influence from whom help will be sought (Angermeyer & Matschinger, 1996; Outram et al., 2004) rather than focussing on the factors which actually precipitate this help seeking behaviour. Generic factors which lead to help seeking for mental health problems have been identified as including being female, being aged over 55, experiencing poorer psychological well being, experiencing more

physical health problems, higher levels of unpleasant stressful events, knowing someone who has successfully sought help, expectations about help seeking outcome, fear of psychological treatment, a willingness to disclose mental health problems and greater perceived deficits in social support (Ciarrochi, Deane & Wilson, 2002; Phillips & Murrell, 1994; Rickwood, 1996; Rickwood & Braithwaite, 1994). Outram and associates (2004) stated that help seeking for psychological distress was particularly relevant for women. Analyses of general help-seeking behaviour indicate that women are more willing to undertake help-seeking actions. Those with fewer psychological assets or with existing physical health problems are also more likely to seek mental health help from the formal health-care system, as are those with previous experience of formal mental health care (Parslow & Jorm, 2000). Ciarrochi, Wilson, Deane and Rickwood (2003) argued that skill at perceiving emotions and managing them (in both self and others) were consistently related to higher intentions to seek help from family and friends, and skill at identifying and describing emotions was consistently related to higher intentions to seek help from friends. Women were significantly more likely than men to use services provided by other health professionals, but not services provided by psychiatrists and psychologists. Leaf and Bruce (1987) similarly found women to be more likely to consult general practitioners, but not psychiatrists and psychologists, and noted that sex differences in utilisation were primarily accounted for by differing attitudes towards such care (Parslow & Jorm, 2000). Further, Astbury (2001) argued that gender could significantly influence the detection and diagnosis of mental health disorders, the access to appropriate services, and possibly the responses of the health system to such help seekers. Rickwood and Braithwaite (1994) noted that gender was a significant predictor for help seeking behaviour in those with evident emotional distress. In

addition, research consistently shows that females acknowledge higher perceptions of risk for mental illness than males (Riechard & Peterson, 1998, Parslow & Jorm, 2000).

## **2.5 Help seeking in depression**

Little is known about the relationship between depression and help seeking apart from the understanding that help seeking and depression are inextricably complex behavioural phenomena (Nadler, 1987). Most individuals (66.1%) with a moderate number of depressive symptoms do not seek professional assistance (Lyu, 1999). Factors which have been linked with help seeking for depression include the severity of the distress experienced, the individual's history of help seeking behaviour, the accessibility of services and social support and the availability of other resources (Ciarrochi, Wilson, Deane & Rickwood, 2003; Ross & Hardy, 1999).

Knowledge and attitudes about the illness and its symptoms, perceptions about the effectiveness of treatment and perceived commonness of the illness also interact to determine the likelihood of help seeking (Sheikh & Ogden, 1998). Of potential relevance is Nadler's (1989) assertion that the act of help seeking is potentially self-threatening. Given the nature of depression being seen as ego-central and thereby self-threatening, an admission of perceived vulnerability and subsequent help seeking for depression is potentially viewed as equally self-threatening. Women often express a sense of personal responsibility for depression (Hood et al., 1999). This belief structure appeared grounded in their constructions of depression, where both the causes of the illness and the responsibility for wellness were seen as determined by

the resource capacity of the women. Similarly, the reports by these women of medication masking the real problems and potentially interfering with the process of getting well converge with this subjective construction of depression. (Hood et al., 1999)

*'I am only now dealing with the embarrassment and guilt and remorse and blame that I feel at myself and this awful thing called depression.' (McNair et al., 2002, p. 79)*

*'The more things that went wrong the more I blamed myself, it felt like it was all my fault, the feelings of depression... all of it'. (Lewis, 1995, p. 375)*

## **2.6 Barriers to help seeking**

The perception of a personal health risk is primarily influenced by at least three factors; general health values, which include interest and concern about health, specific beliefs about vulnerability to a particular illness, and beliefs about the consequences of the illness, such as whether or not they are serious (Millstein & Halpern-Felsher, 2002). Whether an individual believes a health measure will reduce the risk breaks down into two sub-components. Whether they believe a health practice will be effective and whether the perceived cost of undertaking the measure exceeds the benefits of the measure (Outram et al., 2004). Two of the most powerful determinants of whether an individual actually practices particular health behaviours including help seeking, are the perceived barriers to the practice of the health

behaviour and the perceived risk/susceptibility of a particular illness (McNair et al., 2002).

Recognised barriers to help seeking include social, professional and personal factors as well as stigma. Additional factors such as characteristics of treatment facilities and providers including accessibility and cost have been related to delayed help seeking (Hickie et al., 2001; Jordan & Oei, 1989). The general lack of information about treatment resources amongst community gatekeepers including legal, medical, personnel and community organizations, their limited training in dealing with psychological problems, as well as mixed views about the effectiveness of treatment programmes by lay people and professionals, provide barriers to anyone seeking help for psychological problems (Jordan & Oei, 1989). Hickie (2002) argued that access to treatment does not necessarily lead to the receipt of sufficient information to make appropriate treatment or personal choices. Further, areas such as knowledge and attitudes about depression and its sufferers; an acceptance by the community, policy makers and mental health professionals of depression and sufferers of depression all act as barriers to help seeking in depression. Research such as that by Wilson and Deane (2001) argued that relationship factors such as trust were key approach factors for help seeking behaviour. They reported that in their qualitative study of 23 adolescents not feeling heard, valued, accepted and treated with dignity within a help seeking relationship were significant barriers to engaging in help seeking behaviour (Wilson & Deane, 2001).

Several factors have been found to influence the decision to consult a GP with symptoms of bad health, including knowledge, the interpretation of symptoms, as well

as fear and trust in medical treatment. Despite the GP being considered the first port of call for help, for those suffering with symptoms of depression, research has shown that individuals postpone seeing a GP for a number of reasons. Among those were a lack of knowledge about where to look for help, the stigma associated with depressive illnesses, the belief that they can somehow ‘pull themselves together’, ideas or beliefs about the treatment of illnesses, and social and emotional factors (De Noouer et al., 2001). These factors often interact to dissuade many people with depressive illnesses from directly asking the GP for help and information (Bishop, 2002). Given that knowledge is a necessary prerequisite for accurately interpreting symptoms as requiring medical attention, if individuals have insufficient or incorrect knowledge, then it becomes impossible to interpret symptoms correctly resulting in a failure to seek help (De Noouer et al., 2001). Delays were more common among people who did not believe that the GP’s action would be beneficial or if they regarded symptoms as self-treatable (De Noouer et al., 2001). When questioned, GP’s reported a lack of knowledge about symptoms and treatments by the general population, not only as a reason for delay, but also as a reason for unnecessarily seeking medical help by the worried well (De Noouer et al., 2001).

Interestingly, Jorm et al. (2002) highlighted that the community does not always see GP’s as a recognised part of the public health response to depression (Hickie, 2002). This was in part due to the persistent view that mental health is, at best, a marginal health issue, and in part, due to a lack of knowledge about available services and treatments (Highet et al., 2002). Jorm, Korten, Jacomb, Rodgers and Pollitt (1997d) observed that divergent views about treatment between the public and health professionals might lead to an unwillingness to seek or accept help from

professionals. Public attitudes to the treatment of depression were compared to the beliefs of health professionals (psychiatrists, general practitioners and psychologists) (Jorm et al., 1997b). As they predicted all health professionals gave much higher ratings than the public to the usefulness of both pharmacological and psychotherapeutic interventions. When evaluating potential differences between health professionals in attitudes to treatment modalities, Jorm et al. (1997d) confirmed that practitioners were most likely to highly rate interventions aligned with their own profession, that is, psychiatrists were less likely than general practitioners and psychologists to rate psychological and lifestyle interventions as useful and psychologists were less supportive of medical interventions.

In spite of the divergent views of professionals and the public regarding the usefulness of particular treatments, several cognitive and attitudinal barriers may be associated with primary care clinicians including GP's competency in the recognition of psychiatric illness and depression in particular. These barriers include clinician's discomfort with confronting issues about depression, their perceived lack of time, their beliefs about the medical professional's role in treating psychological conditions, and the influence of the biomedical model (Main et al., 1993). Personal barriers to help seeking for mental health problems from professionals were reported by Outram, and colleagues (2004) and included a desire for privacy (16%), confidentiality (5%), fear of being judged by professionals (7%), believing no one can help (9%), pride, (3%) and a desire to cope alone (13%).

As well as the factors described by Outram and colleagues (2004) negative myths / expectancies and the impact of the knowledge gap create additional barriers for

women seeking help for mental illness generally, and depression more specifically (Jordan & Oei, 1989; Rylands & Rickwood, 2001). The gap created when those who need help do not receive it has been conceptualised as a service gap (Raviv et al., 2000). The emergence of a service gap is commonly explained to be the result of a threat to the self, which is believed to incur psychological costs that hinder help seeking behaviour. There are several variables that affect help seeking behaviour by imposing a threat to their self, such as egocentricity of the problem, self-esteem and feelings of inferiority and dependence (Raviv et al., 2000). Research has noted that seeking help is often tantamount to an open admission of failure and inadequacy, that is self-threatening for the individual in need of help (Jordon & Oei, 1989). Due to the self-threatening nature of help seeking many choose not to seek help even if this decision means continued difficulties (Nadler, 1987). This threat to self often incurs psychological costs that exceed the perceived benefits of seeking help (Raviv et al., 2000). Not perceiving a problem or symptom as serious enough, learned helplessness, a lack of social support, a lack of knowledge of how and where to seek help, and an unwillingness to disclose personal information related to psychological problems were additional barriers to help seeking identified by Lyu (1999) and Rickwood and Braithwaite (1994).

Empirical evidence has suggested that the stigma of depression is a major factor hindering the effective treatment of depression (Haslam, 2005; Hunt et al., 2003; Sims, 1993). The ongoing stigma associated with depression within the community has major negative effects on sufferers of depression, resulting in overt and covert barriers to social participation that continues even when these people have recovered (AIHW, 1998). Despite significant progress in recent years, mental health diagnoses

still carry powerful stigma and are likely to arouse strong self-presentation concerns and socially desirable responding (Haslam, 2005). Haslam (2005) argued that folk psychiatry clarifies the psychological basis of stigma, in particular the moralizing dimension, which has established correlations between controllability attributions and stigma. Finding a way to reduce stigma and help distressed individuals acknowledge their symptoms should lead to better diagnosis and treatment outcomes overall (Haslam, 2005; Hunt et al., 2003). The problems associated with stigma can act as important barriers to treatment entry, particularly for women suffering from depression.

Preboth (2000) asserted that at times, overcoming real and perceived barriers to help seeking and convincing patients to seek, start and adhere to treatment is difficult. Some patients may refuse to accept a diagnosis of psychiatric illness; therefore, they will not accept treatment for the disorder. Others may be hesitant to begin specific treatments. Parker and colleagues (2001) reported that while medical professionals viewed antidepressants as helpful for depression, the public viewed them as harmful. Correspondingly Preboth (2000) suggested that some patients are reluctant to take antidepressant medications because they fear "becoming addicted," "needing a crutch," taking "mind-control drugs" or for other reasons (Preboth, 2000). When people do begin treatment, some may be dissuaded by unexpected or unpleasant side effects of medications, delay in sufficient improvement or difficulty in forming an alliance with a psychotherapist. In addition, people often perceived medical treatments for depression as harmful or leading to adverse outcomes. Patients who initially agree to treatment report a feeling that they must follow the treatment plan closely to ensure improvement of the illness and feel under pressure to succeed in

overcoming their symptoms. Findings such as these demonstrate that facilitating sufferers to seek treatment is one piece of a complex puzzle with important implications for prevention, management and treatment outcomes.

## **2.7 In summary**

Forty percent of Australians suffering from depression fail to present for care. Public health literature has identified that the recognition of early symptoms of depression and the management of risk as key areas in the prevention and effective management of depression. Effective management includes facilitating engagement in appropriate help seeking behaviours, as well as encouraging sufferers to seek, start and adhere to validated depression treatments. Research such as that by Rickwood et al. (2005) argued that although research has considered a wide range of diverse factors that may affect help seeking behaviour, little consensus has been achieved. Indeed, while help seeking behaviour has been extensively explored within various physical health domains and models exploring health behaviours such as help seeking behaviour have been developed and tested, a much less concerted approach has been undertaken to explore help seeking behaviour in mental health and / or depression. Conversely, barriers to help seeking have been more thoroughly examined in health literature revealing a range of social, professional and personal factors that inhibit help seeking behaviour. The stigma attached to depression as an ego-central threat has also been asserted. This important research exploring barriers to help seeking has consistently demonstrated that perception of personal risk acts as a powerful determinant for help seeking behaviour. A core component of this thesis involves identifying women's

understanding of their perception of risk and the factors that underpin this construct.

The next chapter will review the current literature in the field of perceived risk.

## CHAPTER THREE

### PERCEPTION OF RISK

#### **3. Introduction**

Perception of risk, which is the central focus of this thesis, appears to play a crucial role in understanding help seeking behaviour for both physical and mental illness (AIHW, 1998; Eiser et al., 1993; Jordan & Oei, 1989; McNair et al., 2002; Ratliff et al., 1999; Taylor, 2004). A unified understanding of how individuals perceive their own risk is relatively unclear with debate ensuing about the validity of statistical information in subjective perceptions of risk (Eiser et al., 1993; Millstein & Halpern-Felsher, 2002). Further debate surrounds the nature of the construct, specifically whether it can be conceptualised as a series of factors or represents one general factor (Moore & Rosenthal, 1996; Weinstein, 1980, 1987). Cultural theory also suggests that the construct must be moved from the individual and construed within the relational activities of social groups (Rowse, Norris, Ryan & Weenink, 2000). Despite these continuing areas of debate the literature has established several factors that appear consistent in influencing perception of illness risk. These factors include knowledge of the illness, attitudes and beliefs, social stigma, knowledge of a sufferer, perceived seriousness of the illness, stereotypes of sufferers, and perceived control over the illness (Eiser et al., 1993; Highet et al., 2002; McKeon & Carrick, 1991; Moore & Rosenthal, 1996; Millstein & Halpern-Felsher, 2002; Raviv et al., 2000; Steptoe & Wardle, 2001). These factors have been comprehensively studied in areas of physical health (Haley et al., 2000; Moore & Rosenthal, 1996; Ratliff et al., 1999) but less extensively in mental health.

### **3.1 Perception of risk**

Like most public health issues, beliefs about perceptions of risk have changed over time (Rowse et al., 2000). The precise definition of risk is contested, with risk being equated at one extreme with danger and hazard, and therefore, being seen as something that should be avoided, while at the other end, it is linked to personal development as a positive liberating experience (Alaszewski & Alaszewski, 2002).

Epidemiological studies have identified risk factors that are characteristics or behaviours that are thought to signal the likelihood of higher risk for particular conditions in populations. When making judgments about personal risks, people draw on scientific information and discourse, as well as propaganda touted by the media and popular opinion (Rowse et al., 2000). ‘Objective’ definitions of risk are based on statistical inferences, especially of present and future morbidity, and the aim of risk communication is often seen as that of conveying appropriate statistical information in an intelligible form (Alaszewski & Alaszewski, 2002). Not surprisingly, judgements about risk are viewed as crucial factors in individuals’ perceptions of their own risk as well as decisions concerning health-damaging and health-promoting behaviours. As such, they are included in most theoretical models of health behaviour and play a fundamental role in many intervention programs and health education campaigns. The ability to judge risk is generally considered to be an essential element of decision-making competence (Millstein & Halpern-Felsher, 2002). Eliciting meaningful risk judgements requires an adequate description of the conditions under which the risks are being assessed. In the case of behaviour-related risks, this means making explicit linkages between the outcomes and the behaviour (Millstein &

Halpern-Felsher, 2002). However, research on people's 'subjective' perceptions of risk implies that statistical information is generally poorly understood and may be neglected in favour of informal decision rules or 'heuristics' (Eiser et al., 1993; Kreuter & Victor, 1995). Kunreuther and Slovic (1996) suggest that in investigating public reactions to risk, social science research has indicated features of risk that technical assessment and scientific investigation does not capture well. These include the uncertainties involved with risk, the inequities in the distribution of risk exposure, and the tendency for exposure to risk to be less 'acceptable' if it is involuntary, uncontrollable or dreaded. Previous literature suggests that taking a voluntary risk is related to a sense of controllability and is therefore perceived as more acceptable (Rowse et al., 2000).

Nezlek and Zebrowski (2001) purported that perceived risk was more accurately characterised as a set of specific risk factors (s factors) rather than as a generalised perception of risk (g factor). This assumption allowed for two possible types of models: one in which specific factors represented totally independent constructs, and another in which specific factors represented constructs that were meaningfully distinct but had common variance in the form of a second-order general factor (Nezlek & Zebrowski, 2001). To the degree that risk judgements are viewed as multidimensional and as having cognitive and affective components, both of these interpretations may have some validity (Millstein & Halpern-Felsher, 2002).

Alternatively, cultural theory has emphasised that individual risk perceptions are a product of the relational activities of social groups to which those people belong, and that risk should be looked at with an awareness of how risk functions for particular

groups or cultures (Rowse et al., 2000). One implication of this is that there is a greater focus on individual responsibility for health and less on possible social/structural causes of disease (Rowse et al., 2000). For example, in attempting to understand why individuals make what might be perceived as risky health choices, it is important to bear in mind that there are sometimes social risks associated with not taking health risks (Rowse et al., 2000). The ability to define those who are ‘at risk’ implies that people can attempt to reduce their personal perceived risk by not qualifying for membership of the ‘dangerous’ group (Rowse et al., 2000). According to Rowse and colleagues (2000) by identifying features that increased risk, women could take measures that they felt reduced their personal risk. They were able to create a boundary between those who had problems and themselves, providing a sense of control by identifying risk-reducing strategies that the individual could take. These strategies provided a sense of control, distanced the risk personally and classed those people with problems as different (Rowse et al., 2000).

Perceptions of risk have been shown to be higher among those who engage in risky behaviour (Millstein & Halpern-Felsher, 2002). Van der Velde and colleagues (1992) suggested that perceptions of risk or vulnerability were related directly to preventative health behaviour. While Rothmund, Paepke, and Flor (2001) supported their argument that higher perception of personal risk led to more early detection behaviour, Ratliff and associates (1999) stated that perceptions of personal risk appeared to be more of an assessment of actual behaviours rather than a predictor of self-preserving behaviours (Ratliff et al., 1999). Therefore they argued that recognition of risk alone was not likely to change behaviour.

Rothenmund and colleagues (2001) further examined this phenomenon in relation to breast cancer and found that understanding perception of risk in the general population involved consideration of the following factors; their personal risk estimate; risk estimates for women with a family history of breast cancer; the relation between age and breast cancer; and other behavioural and demographic variables (Rothenmund et al., 2001). Rothenmund and colleagues (2001) reported that 48% of the women in their study overestimated their own lifetime risk of breast cancer, supporting the notion that perception of risk need not be accurate. Indeed accuracy was neither the only, nor the paramount need, facing individuals when generating estimates of personal risk (Rothenmund et al., 2001; Rothman, Klein & Weinstein, 1996). They also stated that breast self-examination did not differ significantly with different risk estimates and that knowledge expansion in the form of genetic counselling did not seem to alter the participants' understanding of probabilities. Finally they found that lifetime risk estimate was not significantly related to adherence to any of the early detection behaviours (Rothenmund et al., 2001). Kreuter and Victor (1995) concurred stating that individual risk feedback did not alter patient's perceptions of their heart attack risk.

Moore and Rosenthal (1996) in their Australian study of university students argued that individuals judge their likelihood of experiencing health problems to be significantly lower than that of the average person. In a 1992 study they reported that their sample of 17-20 year olds viewed their risk of AIDS and STD's as lower than that of an 'average' individual of their own age and sex, and that, although perception of risk related somewhat to actual risky behaviour, the relationship was moderate (Moore & Rosenthal, 1992). In their 1994 study of 477 university and college

students they found that perceptions of risk were closely related to the stigma associated with sexually transmitted diseases (Rosenthal & Moore, 1994). Moore and Rosenthal (1996) further examined perception of risk and argued that attitude toward an illness and knowledge about it has the potential to affect perception of illness risk. They went on to suggest that the belief that one is knowledgeable about an illness should increase the accuracy of assessment of one's own perception of risk. They hypothesised that while it was likely that attitudes toward any illness would be negative, extremely negative attitudes were likely to distort individuals' ability to conceptualise a particular illness in a realistic way. Further they suggested that the very thought of an illness may be so unpleasant that precautionary, health promoting behaviours are difficult to plan and sustain (Moore & Rosenthal, 1996).

Moore and Rosenthal (1996) provided validation that knowledge, attitudes and beliefs influence perception of risk. The notion that these factors do indeed influence perception of risk is a key component of this thesis. In addition to the influence of knowledge, attitudes and beliefs, factors such as knowledge of a sufferer (De Nooyer et al., 2001; Millstein & Halpern-Felsher, 2002), perceived seriousness of the illness (Moore & Rosenthal, 1996; Raviv et al., 2000), stereotypical representations of sufferers (Goldstein & Rosselli, 2003; Moore & Rosenthal, 1996; Rosenthal & Moore, 1994; Rothman et al., 1996), and perceived control over the illness (Lyn, 1999; Moore & Rosenthal, 1996; Riechard & Peterson, 1998) also have the potential to influence perception of risk.

### **3.2 Factors influencing perception of risk**

#### **3.2.1 Knowledge, attitudes and beliefs**

A great deal of previous research on health attitudes and behaviour has considered habits, such as cigarette smoking, which are presumed to be difficult to change, but where the risks are presumed to be well known (Eiser et al., 1993). Examples such as these within the physical health literature have identified health beliefs as an important factor impacting on perception and by extension help seeking and treatment compliance (Becker, 1979). Health belief studies have been done on patients with chronic diseases, on preventative health/public health interventions and have examined help seeking (Milewa, Calnan, Almond & Hunter, 2000). Much less research has considered the influence of health beliefs and attitudes on perception of risk in relation to mental health/illness or depression.

Despite the successful linking of attitudes and beliefs to behaviour by models such as the TPB in physical health, less effort has been made to achieve the same success in the area of mental health. Perhaps this is due to the additional complication of defensive processes often evoked by mental illness. These processes have been demonstrated in depression and are supported by research, which confirms that many sufferers do not understand their own risk and therefore fail to engage in help seeking behaviour (Hight et al., 2002). In truth research has only recently begun to explore the same relationships between attitudes and beliefs and perception of risk (Moore & Rosenthal, 1996) with little research examining these phenomena in relation to mental health and/or depression. Indeed, previous surveys of the Australian community's knowledge of depression have shown that most people have little specific knowledge

about depression or about where to seek help (Hight et al., 2002). Research exploring perception of risk has rarely examined models of perception of risk in light of findings such as this, and a major component of this thesis is to consider the influence of knowledge, attitudes and beliefs on perception of risk for depression.

Until recently there were surprisingly few studies of public attitudes to mental illness and depression specifically (McKeon & Carrick, 1991). Haslam (2005) argued that laypeople's conceptualisations or 'folk psychiatry' about mental disorder in general are not well understood. McKeon and Carrick (1991) argued that from the 1960's to the 1990's surveys of public attitudes on mental illness indicated that it was perceived as something to be feared, that its sufferers tended to be mistreated and shunned, although there were signs of some improvement in attitudes (McKeon & Carrick, 1991). Haslam (2005) went further to account for this phenomenon and categorised 'folk psychiatry', describing four dimensions of understanding including pathologizing, moralizing, medicalizing and psychologizing. Each dimension was considered to have unique social and cognitive aspects that contribute to the formation and maintenance of attitudes towards mental health and depression.

*'I have not told of this problem to anyone, they will ill-treat me'* (Wolpert, 1999, p. 37).

*'I do not want to tell anyone. Many of my neighbours are thinking less of me'* (Wolpert, 1999, p. 37).

Overall, it appears that society continues to remain prejudiced against sufferers of depression (Haslam, 2005; Parslow & Jorm, 2000). Individual attitudes towards

receiving formal mental health care appear related to views concerning whether such treatment was required, the value of such treatment and whether the individual may be stigmatised as a result (Haslam, 2005; Parslow & Jorm, 2000).

One explanation for the dearth of public attitude surveys on mood disorders is that depression was not perceived as a form of mental illness and thus was better tolerated by the community (McKeon & Carrick, 1991). McKeon and Carrick (1991) in their national survey found that the vast majority of participants expressed positive attitudes to the depressed, that they regarded depression as being both treatable and requiring active intervention and their concepts of causes and possible treatments generally concurred with those used in clinical practice. They also found that depression was not considered a form of mental illness by 60% of the sample, potentially explaining why such positive views were expressed in contrast to studies of attitudes on mental illness in general (McKeon & Carrick, 1991). Although Carlton and Deane (2000) argued that more positive attitudes toward help-seeking have consistently been associated with help-seeking behaviours, research has generally failed to consider the impact of these attitudes on relative perceptions of risk.

In a study by De Noouer and colleagues (2001), interviews with both patients and GP's revealed that knowledge and interpretation of symptoms seemed to represent important factors influencing the process of perceiving oneself to be at risk, detecting symptoms and consulting a GP. If an individual was expected to interpret certain symptoms as illness-related they needed to know what the warning signals were (De Noouer et al., 2001). It was generally accepted that an individual with sufficient knowledge about the possible symptoms associated with an illness would likely visit

their doctor who would endeavour to identify the underlying cause (Sheikh & Ogden, 1998). Therefore good knowledge about symptoms could result in appropriate consultation behaviour (Sheikh & Ogden, 1999). Parslow and Jorm (2000) argued that those with more knowledge defined their mental health more broadly and had higher self-fulfilment needs or viewed mental health services more positively. The extent to which an individual engaged in help seeking behaviour and followed up on treatment recommendations was dependent on attitude instead of knowledge is illustrated by the finding that those respondents with the highest level of education, that is those most likely to have access to expert knowledge, were the ones who argued most resolutely in favour of psychotherapy and alternative approaches and against psychotropic drugs (Angermeyer & Matschinger, 1996a). There were indications that personal exposure to mental illness exerted a positive influence on an individual's attitude towards the disorder (Angermeyer & Matschinger, 1996b). It was suggested that those with personal experience of an individual's suffering from a mental disorder adopted a more benevolent and accepting attitude towards the mentally ill (Angermeyer & Matschinger, 1996b).

Health beliefs are the values and norms that influence how individuals interpret symptoms and the related actions they pursue. A number of theoretical frameworks including the TPB and HBM models that attempt to characterise and define these beliefs have been described. Because health beliefs influence perception of risk and actions such as help seeking and undertaking health promoting behaviours, they are worth investigating in psychiatric populations (Haley et al., 2003). Rowsell and associates (2000) argued that since perceptions of risk were influenced by beliefs, they may be difficult to alter without a corresponding change in beliefs and this

seemed to happen, sometimes over an extended period (Rowsell et al., 2000). A recent study by Hayley and colleagues (2003) compared the influence of health beliefs on delayed help seeking in mental health, specifically psychosis, and in physical health, specifically diabetes. They concluded that both the beliefs of those participants with psychosis and with diabetes were stable and measurable constructs. Rowsell and associates (2003) stated that health beliefs are a psychosocial construct whose determinants were not shown to produce different patterns of beliefs between mental and physical illness. In that sense, the effect of health beliefs on duration of untreated psychosis was likely to be similar to the duration of untreated diabetes. They concluded that health beliefs alone did not influence use of mental health services.

A personal history of depression and help seeking may affect perception of risk and underlying belief systems, as well as add experiential knowledge on to the scaffold of these belief systems (Jorm, Christensen, Medway, Korten, Jacomb & Rogers, 2000). In their analysis of how beliefs about treatment are organised Jorm and colleagues (2000) showed that there was not a single dimension of knowledge corresponding to mental health literacy. Rather individuals may start with a general belief system that they apply to any unknown health problem, but any specific knowledge they gain can then be grafted on to the scaffold provided by the belief systems. They suggested that specific knowledge may lead to a reorganisation of the hierarchy of treatment preferences within the general belief system. Conceptualised in this way beliefs provide insights into the gap between knowledge, perception of risk and behaviour (Sheikh & Ogden, 1999).

Knowledge about an illness has been described by Jorm and associates (1997a) as health literacy, more specifically health literacy has been defined as the ability to gain access to, understand and use information in ways which promote and maintain good health (Jorm et al., 1997a). Jorm and colleagues (1997a) defined mental health literacy as referring to the ‘knowledge and beliefs about mental disorders which aid their recognition, management or prevention’ (Parker et al., 2001). Mental health literacy includes the ability to recognise specific disorders, knowing how to seek mental health information, knowledge of risk factors and causes, self-treatments, and of professional help available, and attitudes that promote recognition and appropriate help seeking (Jorm et al., 1997a).

Despite the fact that Jorm and colleagues (1997a) reported that attitudes promoted recognition of symptoms and appropriate help seeking, Moore and Rosenthal (1996) found that attitudes did not significantly predict perceived risk in physical illness. Conversely they found that increasing awareness and knowledge contributed to a more realistic perception of risk. Although an individual’s subjective knowledge of past behaviours has a profound impact on current attitudes, affiliations and perceptions of others, they do not appear to curb risky behaviours and their influence on perception of risk is unclear (Ratliff et al., 1999). In their study examining knowledge and HIV with respect to preventative behaviour, Ratliff and colleagues (1999) reported that in general, knowledge regarding HIV infection and AIDS was relatively high on college campuses. Eighty-eight percent of respondents answered correctly on eight of nine questions regarding general HIV infection and AIDS knowledge. Despite knowledge that HIV/AIDS is a life threatening disease and that the use of a condom is effective in preventing the spread of HIV, this knowledge was

repeatedly found to not predict changes in risk-taking behaviours (Ratliff et al., 1999). These results highlight the complexity of the function of knowledge for influencing both actual health behaviours and perception of risk for illness. Notwithstanding this complexity there is a widely held belief that a lack of knowledge about an illness can act as a barrier to perceiving oneself at risk, and can therefore act as a barrier to care.

Shao and colleagues (1997) reported that basic knowledge about the diagnosis and treatment of depression was relatively good. However they concluded that a lack of knowledge and information could cause misinterpretation of symptoms and fear. Fear was found to be related to various aspects of an illness, including unpleasant treatment, the seriousness of the illness, and dying or leaving relatives behind (De Nooyer et al., 2001). In addition fear was reported by GP's as an important factor for both consulting and delaying seeking help in both physical and mental domains. Fear has often been discussed in relation to stigma and the emotional costs of acknowledging a problem's existence (Raviv et al., 2000).

### **3.2.1.1 Stigma**

In addition to knowledge and the formation of and adherence to attitudes and beliefs, social stigma has been demonstrated to negatively impact on behaviour. Stigma has been conceptualised as a confounding influence on perception of risk with significant implications for understanding how risk is perceived and, by extension, help seeking behaviour. British research in the 1990's confirmed that the stigma of depression was alive and flourishing, despite general agreement by participants about the causes and individual susceptibility of depression (Royal College of Psychiatrists, 1992). Stigma

was evident although many participants reported being informed about depression (Royal College of Psychiatrists, 1992). Knowledge in this instance was not sufficient to override the influence of stigma (Rosenthal & Moore, 1994).

Stigma comes in many forms, including increased desired social distance, negative beliefs about relationships with depression sufferers, and negative stereotypes about depressed individuals. In any form, stigma can be devastating to those who are depressed. Stigma can negatively impact the self-concept and lead to treatment avoidance, and a tendency to deny or dismiss personal risk (Goldstein & Rosselli, 2003). False perceptions and myths, together with a limited understanding about depression and the true experience of living with the illness contribute to the development of stigma and negative attitudes and in some cases discrimination (Highet et al., 2002).

Goldberg and Huxley (1980) reported as many as 50% of depression sufferers go untreated, a figure that has been attributed largely to the social stigma still attached to mental illness. A stigma by definition is a distinguishing mark of social disgrace (Sims, 1993). This ‘branding’ of the mentally ill generates fear in the depressive sufferer of being irrevocably labelled as ‘ill’, and of being subjected to embarrassment and discrimination by all around them (Sims, 1993). It has been suggested that because of the negative factors associated with depression, those experiencing mental health problems may evaluate and respond to problem relevant information differently than they would to other personal behavioural information (Snyder & Ingram, 1983). That is their perception of risk for depression is determined differently from their risk perceptions of other medical complaints. As a result many sufferers tend not to

recognize and/or deny their own unpleasant symptoms as evidence of depression, and subsequently fail to consult with a GP because of fear and shame, thereby enduring difficulties for an un-necessarily long time (Rix et al., 1999; Ross & Hardy, 1999).

The perceived humiliating branding as a sufferer of depression induced by social stigma often starts with the prejudice of those around the sufferer, at home, at work and in intimate relationships (Sims, 1993). Low self-esteem that is commonly part of a depressive illness, feeds on this prejudice and the stigma becomes incorporated into the self-perception of the individual, thereby becoming more than superficial. Self-perception is further altered via complex cognitive and affective processes by the potentially threatening nature of seeking help (Haslam, 2005). The implication for perception of risk is that individuals fail to acknowledge their potential for being at risk, through avoidance and denial (Millstein & Halpern-Felsher, 2002), and therefore inhibit their ability to engage in preventative behaviours and/or to respond appropriately to the experience of symptoms of depression.

While knowledge of the illness has therefore been demonstrated to have a significant, albeit complex influence on perception of risk, knowledge of a sufferer has also been identified as a critical determinant of perceived risk.

### **3.2.2 Knowledge of a sufferer**

In addition to knowledge, attitudes and beliefs, subjective experience in the form of knowledge of a sufferer influences how personal risk is perceived. For example an individual who has a friend who had previously discovered a lump in her breast might

be prompted to consult a GP (De Noouer et al., 2001). In their research, Moore and Rosenthal (1996) reported that knowledge of a sufferer predicted perception of risk in 3 (AIDS, Skin Cancer, Chickenpox) out of 10 illnesses studied.

A number of writers including Spielberger (1979), De Noouer and colleagues (2001), and Millstein and Halpern-Felsher (2002) have discussed knowledge of a sufferer in terms of fear inducement. They have stated that knowledge of a sufferer can induce a 'fear to act' that may be situationally determined, in effect it would not have been triggered if the friend had not detected similar symptoms. This type of fear could be compared to Spielberger's (1979) state anxiety, which refers to an individual's temporary emotional condition, marked by perceived feelings of tension (De Noouer et al., 2001). Trait anxiety on the other hand is an inherent tendency to be anxious. Personal experience is a known source of variation in risk judgement (Millstein & Halpern-Felsher, 2002). Research examining the impact of knowledge of a sufferer in depression has been undertaken in a limited way. Interestingly Jorm and colleagues (2000) found that having experienced depression in oneself or others made no difference to belief systems about treatment. Belief systems about risk however have been shown to be impacted by both direct and indirect personal experience with illness including depression (Millstein & Halpern-Felsher, 2002).

A further issue with respect to perception of risk has been the role of personal experiences. The literature on crime, natural and man-made disasters and health have all suggested that first-hand and even second hand experiences of bad events have a powerful impact on the subsequent recognition and interpretation of risk and diminish feelings of invulnerability (Rutter, Quine & Albery, 1998). Essentially these

experiences provide the opportunity for a reality check. Rutter and associates (1998) argued that if an individual had already experienced a negative event, either personally or indirectly, they would perceive its probability for themselves in the future as greater than average (Rutter et al., 1998). Rogers and colleagues (1993) suggested that making sense of the meaning and seriousness of bodily experiences judged against a variety of possible and competing explanations for the presence of symptoms was incorporated in any formulation of risk. The implication of findings such as this is that perceived risk increases as a result of experience. Knowledge of a sufferer is an example of a second tier experience that alters an individual's perception of personal risk.

### **3.2.3 Perceived seriousness of the illness**

The area of 'problem severity' has also been studied in relation to perception of risk, particularly in the area of adult physical health. The severity of the problem in this case 'an illness' interacts with perception of risk and help seeking behaviour with the more serious the problem, the greater likelihood that help would be sought (Raviv et al., 2000). Raviv and colleagues (2000) argued that for very serious health problems, as symptoms increased and knowledge of an illness was applied to bodily experiences, more help was sought from professional sources. However, research such as that by Keller and colleagues (2002) argued that in some instances perceived severity of an illness actually inhibited help seeking through fear. They suggested that a defensive mechanism was enacted to avoid potentially damaging news.

Moore and Rosenthal (1996) found that problem severity was variable across illness, and not necessarily grounded in reality. They did report that problem severity predicted perception of risk in 4 (Genital Herpes, Skin Cancer, Chickenpox, T.B) out of 10 illnesses studied. No research has specifically explored perceived seriousness with respect to depression.

### **3.2.4 Stereotypes of sufferers**

Moore and Rosenthal (1996) reported that stereotyping of those with an illness provided clues about lowered risk perception. In their study of perception of risk amongst college students for sexually transmitted diseases, stereotyping predicted perception of risk in 4 (HIV, HPV, TB, Schizophrenia) out of 10 illnesses. Rothman and colleagues (1996) suggested that being informed about the health behaviours of one's peers, generating a visual image of a high risk sufferer (stereotyping), and individuating the target of comparison have all been shown to influence risk judgements

Depression is seen as more controllable and stable than physical illness, and not surprisingly depression generates more negative emotions and stereotypes than physical illness (Goldstein & Rosselli, 2003). Therefore the follow-on effect of maintaining stereotypes for depression sufferers implies that individuals' who believe that they do not fit the mould supported by the stereotype are less vulnerable or less inclined to accurately identify symptoms. One consequence of differentiating oneself from a stereotypical sufferer is the potential to inaccurately perceive one's own level of risk.

According to social theories examining stereotyping in relation to help seeking behaviour, the social stereotype of help seeker behaviour, suggests that help seeking behaviour by women is more socially acceptable and perceived as being more positive than when the same behaviour is exhibited by men (Raviv et al., 2000). Research in the area of depression has consistently revealed that women consult specialist and non-specialist services for symptoms of depression more readily than men.

### **3.2.5 Perceived control over illness**

Sense of control has been recognised over the past 25 years as a psychological construct with important implications for health (Steptoe & Wardle, 2001). Lack of control is associated with heightened physiological stress and worse mental health. Research has shown that controllable illnesses provoke greater stigmatisation and that depression is seen as a controllable illness (Goldstein & Rosselli, 2003; Kreuter & Victor, 1995). Perceptions of risk are lower if individuals believe they have control over the risk (Riechard & Peterson, 1998). Moore and Rosenthal (1996) reported that perceived control over an illness significantly predicted perception of risk in 3 (AIDS, Genital Herpes, T.B) out of 10 illnesses studied.

Attribution theory provides a framework for making predictions as to how individuals conceptualise their sense of control, or more specifically how consensus information (base rate or actuarial data about the prevalence of a behaviour in the population) can effect help seeking for psychological problems. According to attribution theory, high-consensus information should yield an inference that the situation, rather than the individual, is the primary causal agent. Therefore causation is externalised and

situationally dependent. Alternatively, low consensus information indicates a unique response to a situation, engendering the perception that the individual is primarily responsible for the behaviour, therefore an internalisation of cause (Snyder & Ingram, 1983). Lyu (1999) examined these processes and found that perceived responsibility (and perceived level of control) predicted the sources of help selected by those who believed their problems were medical, but not for those who thought that their problems were psychological (Lyu, 1999). This type of finding has important implications for research examining perception of risk in mental health, as often there is a tendency to attribute control to the individual more directly in mental health than in physical health.

### **3.3 In summary**

Understanding perception of risk is a critical component for appropriately recognising symptoms of depression and subsequently for help seeking, treatment compliance, treatment management and public health policy. While numerical risk estimates are often purported to be based on objective statistical information, research has shown that subjective perceptions of risk are frequently based on informal heuristics. The complexity of social group influences on perception of risk has been highlighted in cultural theories. While there exists debate about perception of risk, exploring perception of risk in a global health context has provided clues about approaching comparative explorations in mental health generally and more specifically in depression. These investigations have generally examined the influence of individual factors on perceptions of risk. Several factors have been highlighted to influence perception of risk, notably; knowledge, attitude and beliefs with respect to illness;

knowledge of a sufferer; perceived seriousness of the illness; stereotypical constructions of sufferers and perceived control over the illness. Most research in physical illness exploring perception of risk has examined these factors in isolation and provided a link between help seeking and perception of risk, suggesting that those who perceived themselves to be at risk were more likely to engage in help seeking behaviour. The argument that understanding the influences of perception of risk will have important implications for help seeking, treatment adherence and understanding the subjective experience of depression is central to this thesis. Moore and Rosenthal (1996) reported that factors such as; (a) more undesirable (serious) illnesses, (b) illnesses perceived to be less common in the population, (c) illnesses with which the individual has little personal experience (for, example does not know anyone with the illness), (d) illnesses over which the person believes they have little control, and (e) illnesses for which the person has a clear stereotype of a sufferer, all combine to produce unrealistically low perceptions of risk. These factors associated with perception of risk have been incorporated into a model developed by Weinstein (1980) called optimistic bias. This model attempts to consider these factors in a systemic way and has been demonstrated to have predictive capabilities for perception of risk in a range of physical illnesses (Moore and Rosenthal, 1996). The concept of optimistic bias will be discussed in the next chapter in relation to understanding perception of risk in depression.

# CHAPTER FOUR

## OPTIMISTIC BIAS AS AN EXPLANATORY MODEL FOR PERCEPTION OF RISK OF DEPRESSION

### **4. Introduction**

Weinstein (1980) in a seminal paper on risk perception drew attention to what he called the ‘popular belief’ that people tend to think they are invulnerable. He reported that people generally expect misfortunes to happen to others, not themselves, and most members of a group will say they are less likely than the average to suffer the bad things in life and more likely than average to experience good things. The name he coined for this phenomenon was unrealistic optimism or optimistic bias (Rutter et al., 1998). Over 100 studies published since 1980 confirm the presence of optimistic bias and have explored the impact of such misperceptions on individuals’ perception of risk for a range of situations (Chapin, 2001). This chapter examines the concept of optimistic bias identifying the current complexities of definition and measurement of the construct and reviews the relevance of the construct to the focus of this thesis – the perception of risk of depression. An alternate explanation of perceived risk known as depressive realism, that attempts to explain the interaction between perception of risk and depression will also be considered.

#### **4.1 The development of the concept of optimistic bias**

Researchers in the 1930’s were claiming that when people were asked to predict outcomes of social and political issues, their predictions tended to coincide with their

individual preferences (Cantril, 1938, McGregor, 1938). This resulted in substantial research exploring the impact of this finding on people's political preferences and social alliances. During the 1950's this research moved beyond the political and attempted to explore people's bias for purely chance events (Irwin, 1953). The 1960's and 1970's resulted in investigations concerned with examining people's bias about specific events such as automobile accidents (Robertson, 1977), crime (Weinstein, 1980) and disease (Harris & Guten, 1979; Kirscht, Haefner, Kegeles & Rosenstock, 1966). Much of this research utilised self-report questionnaire/survey type formats to discover people's predictions for their own future. The results from these studies suggested that people tended to be unrealistic about the future, and in the 1970's the American Cancer Society suggested that many people claimed their own risk of accident, crime or disease was less than average, and that few people claimed that their risk was greater than average (Harris & Guten, 1979).

The notion that people believed themselves to be invulnerable, or at least below the average, when it came to the chance of being a victim of misfortune was the starting point for research by Weinstein (1980) into a concept he termed optimistic bias. Weinstein attempted to expand the findings of past research from social and political issues, purely chance events, automobile accidents, crime and disease to examine whether people were merely demonstrating a hopeful outlook on life, or whether they were making an error in judgement, and hence demonstrating an optimistic bias. Weinstein's (1980) initial American study of 258 college students concluded that optimistic bias was a real phenomenon that provided evidence of defensiveness or wishful thinking, and that essentially this bias served as a defence mechanism to reduce anxiety. More recent work ratified these early findings of Weinstein providing

substantive support for the construct and its implications across a wide range of events for example drug addiction, lung cancer, tooth decay, skin cancer, HIV, auto injury, unemployment, divorce, suicide and burglary (Darvill & Johnson, 1991; Davidson & Prkachin, 1997; Harris & Middleton, 1994; Kunreuther & Slovic, 1996; McKenna, 1993; Pietromonaco & Rook, 1987; Rutter et al., 1998; Welkenhuysen, Evers-Kiebooms, Decruyenaere & Van Den Berghe, 1996).

#### **4.1.1 Weinstein's early foundation work**

Weinstein is generally credited as the first to recognise and name the construct optimistic bias. Weinstein (1980) coined the phrase 'optimistic bias' to describe the common misperception that 'bad things happen to other people, but not to me'. Weinstein (1980) argued that individuals make comparative risk assessments in an egocentric manner, paying little attention to the risk status of others when asked to determine their own relative risk (Chapin, 2001). Weinstein (1987, 1988, 1989) conceded that experience had great influence on optimistic bias, specifically that individuals use past experience to predict their future vulnerability (Chapin, 2001). Individuals believing that they were more likely to experience positive events believed that they were more able to control positive and negative events. Conversely individuals who believed themselves more likely to experience negative events believed themselves to be less in control.

Weinstein (1987) conducted a community wide study of 296 individuals randomly selected from New Jersey and stated that 'optimistic bias was prevalent in the population as a whole'. It was suggested that participants in his many studies overall

demonstrated a pervasive tendency to view their own risk for a variety of negative life events as significantly below average, accompanied by a diminished sense of susceptibility to harm.

After establishing the existence of optimistic bias, Weinstein endeavoured to explain the phenomenon using two possible theoretical models - the motivational and cognitive models (Weinstein, 1984). The motivational explanation/model for optimistic bias predicted a positive relationship between perceived threat and optimism. Other research went onto suggest possible relationships between perceived risk, threat and defensive denial (Van Der Velde et al., 1992). Weinstein (1980) proposed that the denial interpretation led to the prediction that the more threatening the hazard, the greater the illusion of control.

The second explanation involved cognitive errors. Here, Weinstein (1982) college students were asked about their chances of experiencing 6 negative events and compared with their peers chances of experiencing similar events. Weinstein (1982) referred to egocentrism and stereotypic mental images of the victim. According to this explanation because of egocentricity, individuals may forget that their own efforts to reduce the likelihood of a negative event occurring may be shared by others. For example, those engaging in protective behaviours such as applying sunscreen when outdoors in an effort to reduce the potential for skin cancer, often forget or fail to credit others for engaging in the same activity, thereby imaging their own risk as less than others (Weinstein, 1987). Furthermore, they tended to have a selective recall of factors that reduce one's risk as compared to factors that increase one's risk. He suggested that individuals have a stereotypic mental image of the victim, and if they

did not see themselves as fitting the image, they were likely to conclude they were not at risk, even though they differed from the image only in features irrelevant to risk vulnerability. Both the existence of egocentrism and stereotypic mental image were confirmed by Weinstein (1980, 1982, 1984). Although some research suggested that both motivational and cognitive factors play a role in optimistic bias most evidence indicated a primary role of cognitive factors as determinants of optimistic bias (Van Der Velde et al., 1992).

Research such as that by Weinstein and Lachendro (1982) considered optimistic bias as a product of ego-defensive tendencies. In the same year Weinstein investigated optimistic bias about susceptibility to health problems. By the late 1980's researchers such as Tennen and Affleck (1987) were investigating the costs and benefits of optimistic explanations and found that individuals who were unrealistically optimistic were particularly vulnerable when things went wrong. Conversely the psychological benefits of optimism included reductions in anxiety as well as the ability to carry out everyday activities without being continually 'on guard' (Tennen & Affleck, 1987).

While the work of Weinstein (1980,1982) provided a name for the concept of optimistic bias and laid the foundation for explorations into optimistic bias, it was often criticised as being unrepresentative and ungeneralisable because of a tendency of the seminal research to over utilise college students as participants. In an effort to dispel these criticisms Weinstein compiled a community wide sample to examine the impact of unrealistic optimism about susceptibility to health problems. From this research it was concluded that individuals were often ingenious in finding reasons for

believing that their own risk was less than the risk faced by their peers (Weinstein, 1987).

By the end of the 1980's it appeared that the concept of optimistic bias was fairly well accepted as an explanation for why people considered themselves invulnerable and interest in the construct extended into areas of psychological importance such as, personality, social and clinical psychology. Dolinski, Gromski and Zawisza (1987) and Dewberry, Ing, James, Nixon and Richardson (1990) began to consider the importance of examining unrealistic optimism in relation to the reverse effect, unrealistic pessimism. The research of Dewberry and colleagues (1990) asked participants to complete a questionnaire regarding their expectations about life events. The events covered by this questionnaire included; being the victim of rape, developing cervical cancer and being fired from a job. Dewberry et al. (1990) found that there was a negative correlation between optimism and anxiety that was consistent and global across events. Further, the results of this study revealed a specific rather than global effect of anxiety, attributing to the relationship between emotion and cognitive processes, and their impact on development and sustenance of optimistic bias. Similar research examining the interaction between optimistic bias and personality such as that by Darvill and Johnson (1991), found that optimistic bias was substantially related to extraversion and neuroticism scores on the Eysenck Personality Questionnaire. This research supported the notion that optimistic bias was a stable and measurable personality construct.

Interestingly, most of Weinstein's analyses involved comparisons between hazards, rather than between individuals. The danger in this type of analysis according to

Kirscht and associates (1966) was that finding greater average optimism for hazards rated as more preventable was not the same as finding that, for any single hazard, more optimistic individuals give higher ratings for preventability. More recently research such as that by Kreuter and Victor (1995) and Pietromonaco and Rook (1987) examined optimistic bias between individuals, and found that consistent differences in optimistic biases were evident across individuals for a range of conditions providing evidence for the stability of the construct.

## **4.2 The complexity of the construct**

Within the literature exploring the concept of optimistic bias there exists confusion. A number of terms, including optimism, comparative optimism, unrealistic optimism and optimistic bias, are used loosely, often as overlapping constructs. Optimism appears to represent a stable and measurable personality trait, whereas comparative optimism, unrealistic optimism and optimistic bias appear to be different names for the same construct, which collectively represent more fluid state/situational based traits. In addition to the inconsistent use of a ‘name’ for this phenomenon, there exists controversy regarding the dimensionality of the construct. That is, whether optimistic bias can be considered as one end of an optimism-pessimism continuum (bi-dimensional), or whether it should be considered as a unidimensional construct.

### **4.2.1 Optimistic bias**

Optimism is the basic tendency to perceive positive events as likelier than negative ones, while optimists are individuals who believe that they will generally experience

good outcomes in life. This stable predisposition or personality trait has been thought to influence health-enhancing or health-promoting behaviour through the coping styles employed by these individuals. A number of investigators have attempted to clarify the role of optimism in the use of adaptive coping behaviour, as well as in the promotion of better psychological and physical well-being (Chang, D'Zurilla & Maydeu-Olivares, 1994; Chang et al., 1997; Davidson & Prkachin, 1997). Taylor and Sheppard (1998) revealed that individuals were more optimistic about future events that were controllable, presumably because they believed that they could take actions that would affect the occurrence of the outcome.

Optimism has been associated with attempts to regulate unpleasant feelings connected with negative events. Briefly, when their optimistic beliefs will not immediately be challenged, people underestimated the likelihood of negative events occurring because it was distressing to acknowledge that one is at risk (Taylor & Sheppard, 1998). However, people abandoned their generally optimistic outlook in favour of a pessimistic outlook when they anticipated imminent feedback for an outcome with serious consequences (Taylor & Sheppard, 1998).

As opposed to optimism as a stable personality dimension, Weinstein (1980) suggested that the development and maintenance of an optimistic bias was based on incorrect cognitive judgements individuals made that were influenced by a number of fluid illness-based factors. These factors included seriousness of the illness, commonness of the illness, personal experience/knowledge of a sufferer, sense of control over the illness, and a clear stereotype of the sufferer (refer to Table 3 on page 81). Weinstein (1980, 1984, 1987, 1989) purported that these factors interacted to

form an optimistic bias that was able to override the benefits of optimism including increased resilience, better problem solving skills and greater wellbeing, that resulted in unrealistically low perceptions of risk. This interactive relationship discussed by Weinstein forms the theoretical basis for this thesis.

Optimistic bias incorporates comparative optimism and involves a direct comparison between self and others. Although subtly different unrealistic optimism is situationally based and involves generally perceiving positive events as likelier than they actually are and that negative events are less likely than they actually are (Harris & Middleton, 1994; Taylor & Shepperd, 1998). There are two senses in which people can be unrealistically optimistic about their risk. On the one hand, they can be relatively optimistic by believing their own risk to be lower than what they believe to be the average risk. On the other hand, people can be absolutely optimistic by having a perception of their own risk that is lower than the actual risk (Eiser et al., 1993; Rothman et al., 1996). Weinstein (1980) and Perloff and Fetzer (1986) accounted for the occurrence of optimistic bias via downward comparison theory. Wills (1981) argued that people could enhance their subjective well-being not necessarily by changing their perception of themselves but by comparing themselves to a selectively disadvantaged other group. Rothman and colleagues (1996) argued that when people rated themselves as less at risk than the average person, they were not being biased in their own risk assessments so much as they were being biased in their risk assessments of the average person. They found that people may be relatively even-handed or realistic in making judgements about their own risk but were more inclined to overestimate other's risk than they were to underestimate their own risk. Further

work by Harris and Middleton (1994) provided clear evidence in favour of the downward comparison hypothesis of optimistic bias.

Harris and Middleton (1994) stated that optimistic bias could arise from a tendency to distance the self cognitively from a negative stereotype, essentially making cognitive errors (Eiser, et al., 1993). Notably Taylor and Brown (1988) remarked on the widespread assumption that the normal well-adjusted individual had an accurate perception of reality and was free from illusionary and stereotypical biases. However this view has been contradicted by research indicating that well-adjusted individuals were more susceptible to optimistic biases and the illusion of control, while less well-adjusted individuals were less susceptible to these illusions (McKenna, 1993).

While optimistic bias acted to reduce the anxiety that would be generated by admitting personal vulnerability while enhancing self-esteem (Kirscht et al., 1966), Dewberry and colleagues (1989) suggested that people were less unrealistically optimistic about negative events associated with strong anxiety than they were about negative events that were not associated with such high levels of anxiety (Dewberry et al., 1989). Davidson and Prkachin (1997) described that those who believed that (relative to their peers) they were unlikely to suffer future adverse events were at increased risk for later health difficulties, as a result of their decreased motivation, effort exertion, and goal attainment, to engage in health-protective behaviours. This research was considered supportive of optimistic bias because the vast majority of such individuals often reported being less likely than their cohort to encounter adverse health events (Davidson & Prkachin, 1997). Further, those who displayed an

optimistic bias tended to rate their interest for adopting health-promoting behaviours as low and their control of risk factors as high (Davidson & Prkachin, 1997).

Weinstein's research (1987, 1989a) suggested that optimistic bias was greatest for problems that were perceived as infrequent, as preventable or controllable by individual action and with which people had little experience (Welkenhuysen et al., 1996). Moore and Rosenthal (1996) drawing on this seminal work of Weinstein reported that optimistic bias existed in relation to perception of risk for STD's in their study of young people in Australia. As described in Chapter 3, Section 3.1 the Moore and Rosenthal (1996) study involved the inclusion of knowledge of the illness and attitude toward the illness in addition to Weinstein's (1980, 1984, 1987) original five factors, as displayed in Table 3.

Moore and Rosenthal (1996) suggested that knowledge about others could influence personal risk perceptions, and that although optimistic biases in risk comparisons may result primarily from overestimations of others' risk, people could maintain such biases by altering beliefs about their own risk (Moore & Rosenthal, 1996; Rothman et al., 1996). Rothman and colleagues (1996) stated that attitudes and beliefs about illness were constrained by knowledge about their personal risk. Both the Moore and Rosenthal (1996) study and the Rothman and colleagues (1996) study stated that control was potentially the most important factor in optimistic bias.

**Table 3. Weinstein's (1980) model of Optimistic Bias (OB) with Moore and Rosenthal's (1996) additional factors**

Weinstein's (1980) original OB factors	Moore & Rosenthal's (1996) added factors
<ul style="list-style-type: none"> <li>➤ Seriousness of the illness</li> <li>➤ Commonness of the illness</li> <li>➤ Personal experience/knowledge of a sufferer</li> <li>➤ Sense of control</li> <li>➤ Stereotype of a sufferer</li> </ul>	<ul style="list-style-type: none"> <li>➤ Knowledge of the illness</li> <li>➤ Attitude toward the illness</li> </ul>

Research has shown that both personality factors like optimism and state based factors like knowledge and control factor into decision-making processes and perception of risk of illness. In Scheier and Carver's (1987) examination of individual differences in optimism, one of the central mechanisms offered for the relationship between optimism and health was the control optimists attempted to exert over their situation. They reported that optimism was positively correlated with the use of problem-focused coping particularly for those who perceived the stressful situations as potentially controllable. Likewise, Weinstein (1980) pointed to the importance of illness specific perceived controllability in the operation of optimistic bias (McKenna, 1993).

#### **4.2.2 The dimensionality of the construct**

Chang and colleagues (1994) reported that there was little doubt that the global concepts of optimism and pessimism were important for well-being, with studies revealing that optimism was related to more adaptive coping behaviour in stressful situations (Scheier & Carver, 1987), as well as greater physical and psychological well being (Dember, Martin, Hummer & Melton, 1989; Scheier & Carver, 1985, 1987). While pessimism, on the other hand was linked to depression (Abramson, Metalsky & Alloy, 1989; Beck & Steer, 1987), anxiety (Dember et al., 1989), and avoidant coping patterns (Scheier & Carver, 1987).

Despite the relative importance of the constructs, there has been a great deal of debate within the literature about the dimensionality of optimism and pessimism. A similar debate has transpired within the optimistic bias literature regarding the dimensionality of optimistic and pessimistic biases. Weinstein (1980, 1987) acknowledged that optimistic bias existed for a range of both positive and negative events, and concluded that providing information about the attributes and actions of others reduced the optimistic bias for negative events but did not eliminate it.

Taylor and Sheppard (1998) argued that optimistic bias should be considered and measured with its alternate concept pessimistic bias. A range of investigators including Chang and colleagues (1994) and Dember and colleagues (1989) developed and tested measures such as the Optimism-Pessimism Scale (OPS) and the Life Orientation Test to examine whether a linear and measurable relationship existed between optimistic and pessimistic biases (Chang et al., 1994). Dember and

colleagues (1989) questioned the assumption that optimistic and pessimistic biases were representative of opposite poles on a single, bipolar dimension, or if the concepts were best conceived as two partially independent dimensions on a continuum. Chang and associates (1997) concurred and extended the analysis. They proposed that in clarifying the various possibilities for determining the presence of an optimistic bias, the bias must be considered as a function of both event salience and the likelihood of event occurrence for self versus others. Further issues such as the controllability of the event, the population incidence, severity of the event and knowledge about the event were all related to a person's prediction about future life events (Taylor & Sheppard, 1998).

Implicit in this model was the notion that an individual need not hold an optimistic bias across both positive and negative life events. Indeed much of this research provided evidence that optimistic bias was a valid construct (Chang et al., 2001) with important independent associations with external variables, and that the concept was continuous with bidimensional anchors.

The recent Nezlek and Zebrowski, (2001) study strongly suggested that optimistic bias, as it had been operationalised in many studies was not a unidimensional construct. A confirmatory factor analysis found that a one-factor personality model did not adequately explain participants' ratings of the perceived risk of experiencing 25 different health problems. The results suggested that although there may be a general tendency to underestimate the likelihood of negative outcomes, perceptions of risk for a set of certain outcomes vary independently of one another (Nezlek & Zebrowski, 2001). This thesis in part, further examines the relative significance of this

notion, that a single optimistic bias factor predicts perception of risk of depression. In addition this thesis comparatively examines the single personality factor model with the traditional Weinstein (1980) model that incorporates a series if semi-independent illness specific factors to explore the influence of each approach on perception of risk of depression.

### **4.3 Optimistic bias explored within the physical health domain**

The construct of optimistic bias has repeatedly been studied in relation to physical health issues such as HIV AIDS, skin cancer and sexually transmitted diseases (Davidson & Prkachin, 1997; Eiser et al., 1993; Harris & Middleton, 1994; Moore & Rosenthal, 1996; Van Der Velde et al., 1992; Weinstein, 1982, 1987) as well as pregnancy risk, cancer risk, smoking risk, substance abuse risk and general health risks (Chapin, 2001). As such, many of the implications of optimistic bias have been confined to discussions about physical health and physical health promoting behaviours.

Contemporary research suggests that wellness is influenced by the decisions and choices individuals make regarding health-relevant behaviour. Although some individuals behave in ways that promote well-being, others behave in ways that put them at risk for negative health outcomes. A variety of researchers have suggested that individuals engage in risky behaviours when exhibiting optimistic biases (Weinstein, 1980). According to this view of optimistic bias, individuals who worry less about future health and other hazards (whether realistically or unrealistic) are less inclined to be interested in learning about self-protective behaviours. Optimistic bias

defined this way is hypothesised to lead to harmful health outcomes through the neglect of health-promoting behaviour (Davidson & Prkachin, 1997).

Optimistic bias research has examined individual's perceptions of risk. Primarily investigations have centred on perceptions of risk for life events and crime, as well as perceptions of risk of becoming ill. The decision making processes involved in establishing these perceptions has also been studied in relation to physical health issues, particularly various types of cancer (DeVellis et al., 1990; Eiser et al., 1993; Rothmund et al., 2001; Sheikh & Ogden, 1998).

The aim of much of the research exploring the interaction between optimistic bias and perception of risk in physical health areas has been to investigate the interacting impact of optimistic bias on health promoting behaviour and knowledge changes (Davidson & Prkachin, 1997). Davidson and Prkachin (1997) elected to aggregate vulnerability perceptions across many physical health areas, as they were interested in optimistic bias as a global personality predisposition, rather than as an illness specific perception. Interestingly, they found the importance of examining illness specific risk perceptions. In addition, Rothman and colleagues (1996) illustrated the role of social comparisons processes in health judgements. One implication of their findings was that providing individuals with risk information about their own age group, as was customary in educational approaches to health promotion, did not necessarily lead individuals to accept this information as relevant to themselves. A more promising alternative was to provide information about a specific similar other, not the 'average person' (Rothman et al., 1996).

Despite a large amount of research examining optimistic bias in relation to physical health, optimistic bias has rarely been examined in relation to mental health areas. The limited amount of research that has been conducted in the mental health field has generally been restricted to exploring the relationship between coping styles, the illusion of control and optimistic bias (Harris & Middleton, 1994; McKenna, 1993). Most research had failed to consider the interaction between optimistic bias and mental illnesses such as depression, other than to examine the confounding role of depression in predicting future life events (Alloy & Abramson, 1988; Dunning & Story, 1991; Pietromonaco & Rook, 1987). Despite a link between cognitive theories of depression and cognitive explanations of optimistic bias, little research exists examining this relationship.

#### **4.4 The relationship between depression and optimistic bias**

One of the complexities of understanding perception of risk of depression from the perspective of optimistic bias is the potential for the experience of depression itself to shape the optimistic bias of the individual. A number of theories attempt to explore the influence of depression on perceptions. Beck's influential cognitive theory of depression emphasized the importance of depressed individual's negative expectations. Beck proposed (1967) that negativism about the future was one of the defining characteristics of depression. Additionally, negativism was viewed as a distortion of reality. In his cognitive theory of depression Beck (1972) posited that depressed individuals were less optimistic about their futures than nondepressed individuals. One of the primary assumptions of Beck's (Beck, Rush, Shaw & Emery, 1979) cognitive theory of depression was that, compared to individuals who were not

depressed, depressed individuals exhibited negativity biases in how they interpreted and used information. Specifically depressed individuals tended to distort recall of positive information in a negative direction, tended to over-generalised from negative experiences and regarded their future possibilities as more negative as compared to other people (Keller et al., 2002). Consistent with this supposition, Scheier and Carver (1985) reported a negative relationship between dispositional optimism and scores on the Beck Depression Inventory (BDI).

There is considerable evidence that individuals who are not depressed hold self-perceptions that are heavily weighted towards positive abilities and traits (Kapci & Cramer, 1998; Taylor & Brown, 1988). Those who were not depressed saw themselves as better than the average person and their self-perception was more favourable than an evaluation by an objective observer (Keller et al., 2002). Beck (1979) later suggested that whereas mildly depressed individuals may be realistic and nondepressed individuals may be optimistic, clinically depressed individuals were negative in their perceptions and interpretations of themselves and their future (Kapci & Cramer, 1998; Rothman et al., 1996). Depressed individuals predicted that negative events were more likely to happen to themselves than to an acquaintance (Kapci & Cramer, 1998). The literature also suggested that depressed individuals felt more negative emotions that in turn inflated their risk for negative events, essentially enacting a self-fulfilling prophecy (Keller et al., 2002).

Dunning and Story (1991) examined whether depressed participants were more realistic than nondepressed participants in predicting their future circumstances. Overall, it was reported that depressed participants were less realistic than the

nondepressed participants in predicting which events would occur. They found that depressed participants were less realistic in their predictions of both positive and negative events. Conversely, Kapci and Cramer (1998) found that depressed participants were more accurate than the nondepressed participants in predicting which positive events they would not experience. However nondepressed participants proved to be more accurate than the depressed participants in predicting negative life events. In contrast to the optimistic bias of the non-depressed, the depressed were more balanced in their self-perceptions; they were more likely to relate negative events to themselves than they were to relate positive events (Keller et al., 2002). Therefore depressed individuals may be less prone to unrealistic optimism than the nondepressed because they may make realistic evaluations of contingencies, a tendency that has been labelled depressive realism.

#### **4.4.1 Depressive realism - confounding optimistic bias**

Depressive realism was coined to represent a pattern of data in which people who were depressed outperformed people who were not depressed (Alloy & Abramson, 1988). The depressive realism phenomenon runs counter to the intuition that depression undermines task performance, and may also hold true for future expectations (Kapci & Cramer, 1998). When a danger is real and unfamiliar, it is adaptive for people to acknowledge their own vulnerability, because it will motivate them to find ways of reducing the danger (Dewberry et al., 1989; Shrauger, Mariano & Walter, 1998).

One of the most intriguing findings over the past 20 years has been the claim that, in a number of situations, depressed individuals are more realistic than nondepressed people (Stone, Dodrill & Johnson, 2001). Alloy and Abramson (1988) found that across a range of experimental situations, depressed participants were more accurate in judging contingencies than were nondepressed participants. Their findings were taken as evidence for depressive realism, because depressed participants, unlike their nondepressed counterparts, accurately judged that they had no control over the experimental situation. Recent research has suggested that the depressive realism phenomenon was more likely to be found when subjects did not have any experience with the task (Keller et al., 2002).

Proponents of the depressive realism view rely on the biases, including optimistic bias, associated with the positive schemata of those who are not depressed. The depressive realism hypothesis suggests that a distorted view of reality, instead of indicating depression, indicates a lack of depression (Stone et al., 2001). Implicit in traditional discussions of depressive realism has been the assumption that differences between depressed and nondepressed individuals reflect a systematic tendency for each group to process information differently. It has since been suggested that, depressed and nondepressed individuals process information similarly and that variations in results are not due to processing differences but due to different content in the schemas of depressed versus nondepressed individuals (Shrauger et al., 1998). The important point here was the suggestion that accuracy on the part of depressives was not necessarily an indication of unbiased processing (Stone et al., 2001). It was found that depressive realism disappeared when depressed participants were asked to

estimate the level of control possessed by another in contingency tasks or to estimate their own level of control while in the presence of another.

#### **4.5 In summary**

Optimistic bias as described by Weinstein (1980) provides a model for systematically exploring a number of factors that have been demonstrated to influence individual's perception of risk. The original model by Weinstein and the additional factors incorporated by Moore and Rosenthal (1996) include seriousness of the illness, illnesses perceived to be less common in the population, illnesses with which the individual has little personal experience/knowledge of a sufferer, illnesses over which the individual believes they have little control, illnesses for which the individual has a clear stereotype of a sufferer, knowledge of the illness and attitude toward the illness.

This chapter highlights that since Weinstein's classic series of papers in the early 80's considerable literature on optimistic bias has evolved. Research by Van Der Velde and colleagues (1992) supported the notion that individuals generally tend to overestimate small probabilities with large consequences. This is an important consideration given that the effectiveness of health promotion campaigns and education programs depends to a large extent on getting people to acknowledge the link between their perceived risk and their actual risk status. From this one could argue that if an individual were optimistically biased, they would tend to feel less vulnerable and hence, be less likely to modify their behaviour to avoid risks, or to interpret their symptoms as representative of illness and hence fail to engage in help seeking behaviour.

## CHAPTER FIVE

### THEORETICAL RATIONALE OF THE CURRENT STUDY

This chapter will summarise the theoretical rationale of the current study and identify the emergent research aims and questions and hypotheses to be tested.

#### **5.1 Rationale for the present study**

As indicated in chapter one, the evidence both globally and nationally suggests an increasing burden of disease attributable to depression. Much of the evidence supports the notion that women are twice as likely as men to experience the symptoms of depression. Despite this there exists little evidence exploring conceptualisations of perceived risk for depression for this vulnerable group. Understanding what women factor into their conceptualisations of perceived risk of depression is yet unclear. Equally unclear is whether perceived risk of depression is conceptualised differently from perceived risk of other illnesses both physical and mental.

Further, as discussed in chapter two, empirical research in this area has often failed to explore barriers to treatment. Research has generally been reluctant to engage in examining why up to 50% of sufferers of depression fail to seek empirically validated treatment. Despite the literature suggesting that women are more inclined than men to engage in treatment for depression, there is a limited understanding about the influences on seeking treatment. One potential explanation purported by the literature is the impact of stigma. Although stigma is generally considered an abstract

psychological construct, it can be represented in real way through firmly held stereotypical conceptualisations of sufferers of depression.

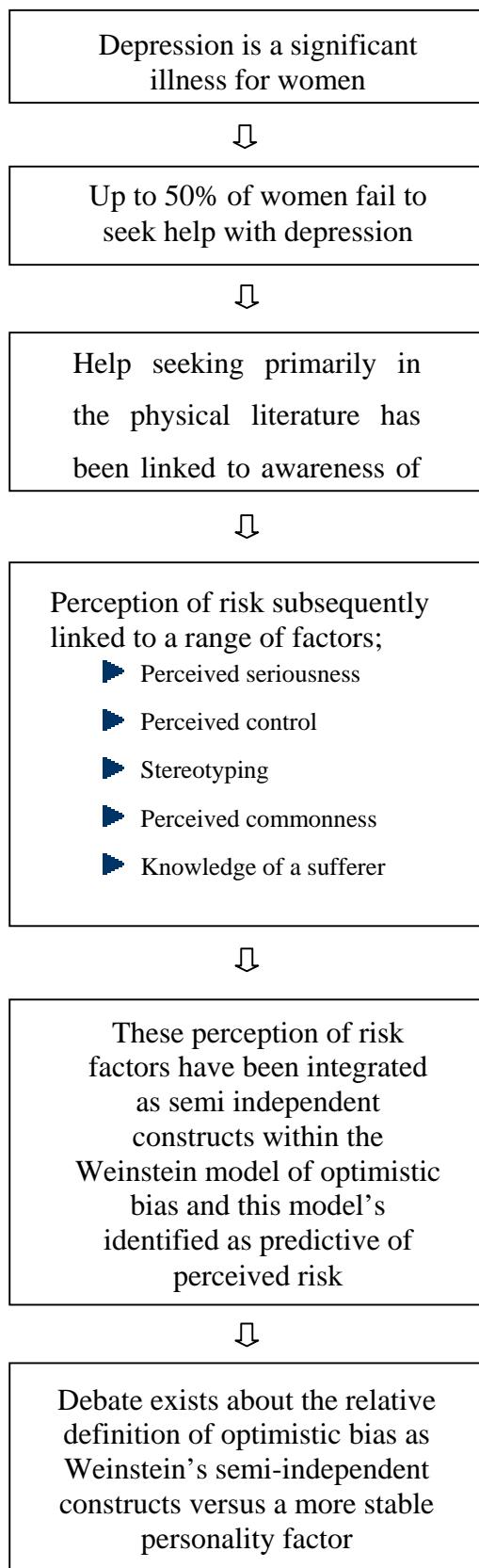
Help seeking behaviour is a phenomenon that has been studied extensively in physical health literature. However, studies exploring help seeking behaviour in mental health are rare. This lack represents a significant oversight given its important implications for treatment compliance and management. Adequate recognition of symptoms also has implications for encouraging health-promoting behaviour. The links between help seeking and perception of risk have been clearly demonstrated, again primarily in the physical health literature with research suggesting that understanding perception of risk of illness is a critical factor for motivating help seeking, with important follow-on implications for health promotion. Variables that have been demonstrated to be relevant to perception of risk of illness in physical health literature include knowledge of the illness, knowledge of a sufferer, seriousness of the illness, stereotypes of typical sufferers and perceived control over the illness. Whether these variables translate as crucial factors for perception of risk of depression is currently unknown.

Perception of risk has been theoretically linked, through the work of Weinstein, to the construct of optimistic bias, although contention exists about whether optimistic bias is more accurately conceptualised as a single personality trait type phenomenon or as a series of semi-independent specific illness factors. The small number of studies that examine the relationship between optimistic bias and perception of risk for depression note that exploring how individuals perceive their personal risk potentially has important implications for public health policy. This research implies that those who do not perceive themselves to be at risk, in this case for depression, are much less

likely to engage in help seeking behaviours. Optimistic bias offers a systematic method of examining the factors known to influence perception of risk of illness, although the applicability of the construct, particularly the personality trait versus illness specific state dimension remains the subject of debate.

The core components of this theoretical rationale are outlined in Figure 1.

**Figure 1** Conceptual foundations of this thesis



## **5.2 Study aims**

This thesis will extend the current knowledge base with a focus on the following central aims,

1. To explore the relationship between optimistic bias and women's perception of their risk of experiencing depression to determine whether a model of optimistic bias traditionally applied to physical health issues is also applicable to mental health issues, specifically depression. Further, to explore the relative strength of two conceptualisations of optimistic bias, i) as series of semi-independent illness specific state based constructs and ii) as a more stable, global personality construct.
2. To investigate women's conceptualisations of depression and develop a comparative profile of perceived risk of depression relative to perceived risk of physical illnesses including Diabetes, HIV/AIDS and Breast Cancer.
3. To utilise the factors associated with perception of risk as identified by Weinstein (1980) and Moore and Rosenthal (1996) to understand women's conceptualisations of depression as an illness. Further, the influence of personal experience of depression and the ability to recognise depression will be considered.

Essentially, this research will chart the risk perception in a non-clinical group of women with respect to four illnesses, one of them a mental illness, in order to determine if there is evidence to support the notion that the perceived risk of becoming depressed is influenced by an optimistic bias. The perceived seriousness, perceived commonness, beliefs about control, personal knowledge about depression, and the degree of stereotyping of a typical sufferer will also be measured, and the relationships between these variables and perceived risk assessed. Attention will be paid to individual's ideas about the categories of individuals who are believed to be most susceptible to the various illnesses.

### **5.3 Study research questions and hypotheses**

A series of two research questions and five hypotheses were constructed to aid investigation of the aforementioned study aims.

#### **5.3.1 Research Question 1 - conceptualisation**

***Research Question 1: Women in this study will conceptualise their perceived risk of depression differently from their perceived risk of other physical illnesses.***

As stated in chapter one, depression is a serious and costly illness, with women over-represented in clinical populations, often experiencing higher levels of symptomatology than women in the general population. Despite this, there is little research exploring how women think about their risk of depression, and more specifically, is perceived risk thought about differently from other illnesses?

### **5.3.2 Research Question 2 - stereotypes**

*Research Question 2: Stereotypical representations of the typical sufferer will exist for depression.*

Where stereotypes of typical depression sufferers have been explored in some studies, it has been found that maintaining a mental stereotype can represent a defensive distancing from the perceived ‘typical sufferer’. Research also supports a relationship between stigma and stereotypical representations, suggesting that these stereotypes reflect dimensions encapsulated by stigma within society. While there is evidence to uphold these notions, there is less evidence discussing what women perceived as the ‘typical sufferer’ of depression. It is expected that clear stereotypes of depression sufferers exist, that differ from stereotypes of sufferers from other illnesses.

### **5.3.3 Hypothesis 1 – knowledge and recognition**

*Hypothesis 1: There will be a positive association between reported knowledge of depression and recognition of depression.*

As stated in chapter three, knowledge has been demonstrated to play a key role in formulating perceived risk. There is an association between knowledge and the ability to accurately identify symptoms. Therefore, it would be expected that the more realistic knowledge a woman has about depression, the more accurately she would be able to recognise the symptoms.

### **5.3.4 Hypothesis 2 – reported depression and recognition**

*Hypothesis 2: There will be a positive association between reported depression and recognition of depression.*

In line with the assumption that personal experience of depression would facilitate an increased ability to recognise symptoms in another, it was expected that those women who reported clinical levels of depression, would be able to accurately recognise symptoms in others.

### **5.3.5 Hypothesis 3 – perception of risk and optimistic bias as a global construct**

*Hypothesis 3: There will be a negative association between perception of risk for depression and optimistic bias measured as a global unidimensional personality construct.*

As stated in chapter four, the notion that one is less vulnerable or at risk than the average person is known as optimistic bias. Empirical research has suggested that those who fail to recognise their own risk, also fail to engage in preventative behaviours. Hypothesis 3 is based on the belief that those demonstrating a high optimistic bias would report low levels of perceived risk.

### **5.3.6 Hypothesis 4 & 5 – the dimensionality of optimistic bias**

*Hypothesis 4: Optimistic bias as a series of semi-independent constructs will predict perceived risk of depression*

*Hypothesis 5: Optimistic bias as a global unidimensional construct will predict perceived risk of depression.*

Debate has occurred within the literature about the dimensionality of optimistic bias. While this research was not designed to test the theoretical underpinnings of the concept, previous research has suggested that optimistic bias may on the one hand represent a series of semi-independent illness specific state based constructs whilst on the other hand it may represent a global, personality type disposition. Both conceptualisations have been linked to perception of risk of illness. Hypotheses 4 and 5 test the relative predictive capacity of each conceptualisation.

### **5.4 Potential implications of research**

This research will be one of the first projects to consider the influence of optimistic bias on women's perceptions of their risk of depression within the Australian community. As such this study will make a number of important contributions to the scientific literature while facilitating a range of applied applications.

Firstly, the present study will contribute important information to the debate surrounding the differences and similarities in conceptualisations of mental and

physical illnesses. A more detailed examination of these conceptualisations will involve consideration of the influence of optimistic bias and perception of risk of illness. While a number of factors have been identified within the physical health literature as critical influences for perception of risk, this study will explore the relevance of such factors including perceived control and knowledge of the illness to mental health, in particular to depression. The implications of this exploration include developing an understanding of the intrinsically subjective nature of perception of risk and its variability across a range of illnesses.

Secondly, this study will explore the link between subjective perception of risk and depression and examine the influence of optimistic bias in relation to women's self-evaluation of their perception of risk of depression. This study will extend knowledge of the concept of optimistic bias by testing the predictive capacity of the phenomenon in relation to depression as a series of semi-independent constructs and / or as a more global personality construct.

Thirdly, this research will examine the key components of women's perception of their risk of experiencing depression and allow for an investigation into the relationship between self-evaluation or personal experience and knowledge of the illness. Also, this project provides the opportunity to evaluate how women recognise depression, and allows for a consideration of the way in which women relate recognition to personal experience.

A number of important implications arise from this research. Understanding how women perceive their own risk of depression has important implications for help

seeking, treatment outcomes and health promotion. This research will examine and deconstruct some key influences of health behaviours facilitating a greater understanding of the motivations for help seeking and of the relationship between personal experience / self-evaluation and help seeking behaviour. Such understandings will aid the development of effective policies for health promotion, and potentially reveal techniques for increasing awareness of warning signs of depression. Further, by providing a description and explanation of some of the key factors associated with perception of risk of depression, including knowledge of the illness and attitude toward the illness, the ability of mental health professionals to provide educational opportunities for the general public about the issues surrounding depression and the recognition of symptoms could be enhanced. Understanding the nature of stereotypical representations of sufferers held by women further offers the opportunity to actively target and dispel misconceptions reinforced through the stigma associated with depression.

Considering the role of optimistic bias, as both a personality and illness specific construct provides clues about the appropriate direction for interventions designed to improve health-promoting behaviours. It also permits these concepts to be considered for their contribution to the development and maintenance of barriers to treatment and help seeking, as well as for the marketing and promotion of preventative medicine.

Finally, this research is timely, with recent government initiatives related to depression such as the development of the Depression Institute, Beyond Blue, and the new focus on increasing the public awareness about the relationship between physical health, mental health and overall well being.

## CHAPTER SIX

### METHODOLOGY

This chapter describes the study sample and the procedure for sample recruitment. The procedures for data collection are then set out in full detail, including description and discussion of the measures employed to test each of the hypotheses.

#### **6.1 The sample: characteristics and recruitment**

The women who participated in this study were recruited in the State of Victoria, Australia.

One hundred and five women were recruited. The women were recruited through convenience and snowball sampling. The method of recruitment involved approaching individuals known to the researcher in the north, south, east and west regions of Victoria. These individuals were asked to approach women known to them to participate in the study. Women who participated in this study lived in both rural and regional areas and came from a range of socio economic and demographic locations. The participants were aged above 18 years of age and English speaking. All participants were volunteers who were approached, by people known to them and asked to participate in the study, described as ‘an examination of psychological factors affecting health’. The research was not described as a study based on depression in order to minimise any potential reporting bias. In addition, given that one of the aims of this research was to examine differences in conceptualisation

between physical illness and mental illness, it was deemed counterintuitive to highlight depression as the main focus.

Participants were asked by their acquaintance if they would be prepared to complete a series of questionnaires for a Victoria University Doctoral student. The participants who agreed to partake were then contacted by the researcher to arrange an appointment to complete the questionnaires. Appointments were arranged at the convenience of the participant.

All participants were given an Invitation to Help with a Research Project (Appendix A) and written instructions, as well as the opportunity to ask questions of the researcher. Because of the sensitive nature of some of the questions, the confidential nature of the questionnaires was stressed to the participants. Written consent to participate was secured (Appendix B) and participants were reminded in plain language of their right to withdraw at any stage without consequence to themselves. Completing the survey questionnaire took between 25 and 35 minutes. Participants were asked to complete the questionnaires themselves, place and seal them in an envelope provided and return them directly to the researcher. On completion of the questionnaires, participants were thanked for their time, and given information about who to contact should they have any questions relating to their participation as it was acknowledged that questions relating to the illnesses targeted could be upsetting. Additional phone numbers were provided for Diabetes Australia, Anti Cancer Council, AIDSLINE, LIFELINE, and SANE AUSTRALIA. Debriefing and further explanation of the study could occur with participants as required, after formal

participation was completed. None of the participants elected to contact the researcher.

The Human Research Ethics Committee, Victoria University granted ethics approval to this project in July 2002 (Appendix C).

## **6.2 Measures of depression, mental health literacy, perception of risk of illness and optimistic bias**

To test the hypotheses outlined in chapter five, the variables, of current level of depression, mental health literacy, perception of risk of illness and optimistic bias were to be measured. The Beck Depression Inventory related to levels of depression within the current sample, Mental Literacy Vignettes were used to assess the conceptualisation/recognition of depression, the Perception of Risk of Illness questionnaire measured the Weinstein (1980) semi independent optimistic bias construct and Moore and Rosenthal (1996) illness specific constructions of women's perceptions of risk of illnesses, while The Life Events Questionnaire measured the personality construction of optimistic bias and was related to optimistic bias about future life events. Each participant was also asked to provide demographic information such as age, highest level of education and occupation. The instruments used to measure the constructs in this study are described below and summarised in Table 4.

**Table 4** Summary of measures used in the current study

Variable	Instrument
Depression status	The Beck Depression Inventory – II (Beck, 1996)
Mental health (depression) literacy	Mental Health Literacy Vignettes (Jorm et al.,1997a)
Perception of risk of illness (Dependent variable)	Weinstein rating of risk (Moore & Rosenthal, 1996)
Factors influencing perception of risk (independent variables)  ➤ Perceived seriousness ➤ Perceived control ➤ Stereotyping ➤ Perceived commonness ➤ Knowledge of a sufferer ➤ Knowledge of the illness ➤ Attitude toward the illness	Women's perception of risk of illness (Rosenthal & Moore, 1994; Moore & Rosenthal, 1996)
Optimistic bias (global personality construct)	Life Events Questionnaire Shrauger et al., (1998)

### 6.2.1 The Beck Depression Inventory-II

The Beck Depression Inventory-II is a widely used 21-item self-report questionnaire that assesses the presence and severity of depressive symptomatology (Beck, 1996).

Otherwise known as the BDI-II, it has been widely used in the general depression field both clinically and for research. It has also been widely used in international epidemiological surveys assessing mental health in general populations, allowing comparisons between this research and both national and international studies (Beck, 1996). Although the BDI-II emphasises cognitive symptoms, it also includes the other symptoms of depression, such as affective, somatic, behavioural, motivational and interpersonal symptoms. The 21 symptoms and attitudes assessed by the original BDI-II included; mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusations, suicidal withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation and loss of libido. The revised BDI-II was designed to compliment the Diagnostic and Statistical Manual-IV criteria for depression.

Participants are asked to rate the extent to which they have experienced in the past week, including today, specific depressive symptoms across a 4-point numerically anchored scale (e.g., 0= I do not feel sad, to 3= I am so sad or unhappy that I can't stand it). In general, higher scores indicate more severe levels of depression or depressive symptomatology.

According to Beck (1996), the psychometric properties of the BDI-II are sound. A number of studies have reviewed the psychometric properties of the BDI-II and have supported these findings within both psychiatric and normal populations (Beck & Steer, 1987; Hunt, Auriemma & Cashaw 2003). The measure received a Cronbach alpha of 0.96 compared with 0.86 for the original BDI. There are clinical norm groups available for comparison.

For this study the scores for classification were in line with the clinical applications of this measure, such as 0 to 9 within the normal range or asymptomatic; scores of 10 to 18 indicate mild-moderate depression; scores of 19 to 29 indicate moderate-severe depression; and scores of 30 to 63 indicate extremely severe depression. Further depressive status is reported in the results as ‘depressed’ or ‘not depressed’.

### **6.2.2 Mental Health Literacy Vignettes**

The second aspect of this investigation was concerned with conceptualising and/or recognising depression. The mental health literacy vignettes developed by Jorm and colleagues (1997a) provided 2 mental health scenarios. The first vignette described a person who met ICD-10 and DSM-IV criteria for major depression and the other vignette described a person who met the ICD-10 and DSM-IV criteria for schizophrenia. This measure was used by Jorm and associates (1997a), in a large community sample investigating the ability of people in the general community to recognise mental health symptoms.

Participants were shown both vignettes and were asked to respond to two open-ended questions. The first question,

- “What would you say, if anything, is wrong with John/Mary?”

The second question,

- “How do you think John/Mary could best be helped?”

The participants were provided with the opportunity to write a brief statement to answer each of the open-ended questions. The vignettes were scored yes or no for

recognition of depression. Further, within the results those who scored yes for recognition of depression are reported as ‘recognised’ while those who were unable to recognise depression from the vignette and scored no, were reported as ‘not recognised’.

The mental health literacy Vignettes are included as Appendix D.

### **6.2.3 Perception of Illness Risk**

To measure both the study dependent variable of perception of risk and the independent variables perceived seriousness, perceived control, stereotyping, perceived commonness, knowledge of a sufferer, knowledge of the illness and attitude toward the illness (Weinstein, 1980), the Perception of Illness Risk questionnaire was used. The questionnaire based on the work of Moore and Rosenthal (1996) presented 4 illnesses (as opposed to Moore and Rosenthal’s (1996) original 10 illnesses), HIV/AIDS, Diabetes, Depression and Breast Cancer. For each illness respondents were required to complete a series of identical questions. All questions were to be answered, however if the participant had no knowledge of any of the illnesses they were asked to move on. If they had heard about the disease they were asked questions about the following.

*Dependent variable*

a) Perceived likelihood of getting the illness (*perceived risk*), was measured on a 4-point scale ranging from 4 = extremely likely to 1= extremely unlikely.

*Independent variables*

b) Perceived seriousness of the illness (*perceived seriousness*) was measured on a 4-point scale ranging from 4 = extremely serious to 1= not at all serious.

c) Whether they believed that they could avoid contracting the illness (*perceived control*) was measured on a 3 point scale ranging from 3 = yes absolutely, through 2 = to some extent, to 1 = absolutely not.

d) Whether they believed the illness occurred more frequently among certain groups in the population (*stereotyping*). Those who said yes and named a group or groups were given a score of 4 for this variable; those who said yes but did not name a group were scored 3; those who were unsure scored 2; and those who said no scored 1 on this scale. For each illness, groups mentioned by 10 percent or more of the sample were listed.

e) Perceived frequency of the illness (*perceived commonness*) was measured by asking participants to rate their perception of illness commonness on a 7-point scale ranging from 1 = extremely uncommon to 7 = extremely common.

f) Whether they knew a ‘victim’ or someone who was suffering or had suffered from the illness (*knowledge of a sufferer*). Those who knew no one scored 1; those who knew an acquaintance who had the illness scored 2; knowing a close friend or family member scored 3; and knowing more than one person scored 4.

In addition to the above variables, the Perception of Illness Risk questionnaire included the additional variables of attitudes and knowledge of the illness, outlined by Moore and Rosenthal (1996). Attitudes to the illnesses were assessed by asking participants to rate 15 negatively valued adjectives on a 4-point scale ranging from 4 = very to 1 = not at all, regarding how they would feel if they got the illness. The adjectives were embarrassed, guilty, worried, angry, unclean, frightened, ashamed, degraded, unlucky, responsible, infectious, open to criticism, limited in your activities, dependant on others, and depressed. For each illness, the adjective ratings were summed to form a scale on which higher scores represented more negative attitudes.

Perceived knowledge about each illness was assessed by asking participants to rate their knowledge on a 4-point scale ranging from 0 = nothing to 3 = a lot. The questionnaire was arranged so that the illnesses were ordered randomly. This was to counterbalance the possible effects of fatigue in completing the same set of questions on up to 4 different illnesses or order effects biasing the results put in the same format.

The Perception of Illness Risk questionnaire is included as Appendix E.

#### **6.2.4 The Life Events Questionnaire**

The Life Events Questionnaire was developed by Shrauger and colleagues (1998). The 48-item version of this questionnaire was used by Shrauger et al. (1998) and also by Chang et al. (2001), to assess for optimistic and pessimistic bias. This measure was

used to measure the global and unidimensional construct of optimistic and pessimistic bias. Each participant was asked to indicate the likelihood of experiencing a series of positive and negative life events common or typical to adult women. The events described in the Life Events Questionnaire represent a broad range of areas such as interpersonal relations, psychological functioning, academics, finances, recreation and health. The questions for example, “Break or lose something that would cost more than \$5 to replace”, are rated by participants using a 4-point scale that ranged from 1 (definitely will not happen), 2 (probably will not happen), 3 (probably will happen), to 4 (definitely will happen). A total positive bias score was achieved by summing the total positive responses and a total negative bias score was achieved by summing the total negative responses. This questionnaire has been published in its entirety and is included as Appendix F.

## CHAPTER SEVEN

### RESULTS

The results of the quantitative questionnaire data are presented in this chapter. These comprise demographic information about the sample, presentation of issues relating to method of data analysis and presentation, and the results of the hypothesis tests.

#### **7.1 The demographics of the sample**

The sample of women in this study comprised 105 women aged 18 years and above. Records were not kept of the percentage of women who were approached that agreed to participate in this study, so the response rate for participation is unknown. Women's ages ranged from 17 to 72 years, with a mean age of 41.8 years and a standard deviation of 5.68 years. Of the 105 women sampled 62 % had engaged in some form of tertiary education, with completed education levels ranging from year 7 to tertiary. The number of women who were able to recognise depression from the mental health literacy vignettes was 84.7% with 15.3% unable to recognise depression from the same scenarios. Fifty-seven percent reported symptoms of depression above normal levels with 43% within the non-clinical range. No other demographic information was collected for the purposes of this study.

#### **7.2 Issues relating to the method of data analysis and presentation**

The analysis of the data was based on the work of Moore and Rosenthal (1996) and their examination of young people's assessment of their risk of sexually transmitted

disease. Moore and Rosenthal (1996) examined perception of risk for 10 illnesses and undertook a comparative analysis. The present research was intended to replicate their comparative analysis for HIV/AIDS, Diabetes, Depression and Breast Cancer. In addition, Moore and Rosenthal (1996) utilised regression analysis to determine which semi-independent optimistic bias factors best predicted perceived risk. The present research was also designed to follow closely the method of analysis used by Moore and Rosenthal, with the addition of a global (personality) optimistic bias variable. The optimistic bias variable was proposed to explore the similarities and differences between the predictive power of the semi-independent (state) constructs of optimistic bias, and the more global (personality) construct of optimistic bias.

Results are presented addressing the research questions and then each hypothesis in turn. The results include a descriptive evaluation of comparative beliefs designed to highlight the differences in perceived risk for Depression compared with other physical illnesses. Descriptive analyses were included for those who recognised depression and those who did not. The aim of presenting a comparative analysis of perceived risk for those who recognised depression was to explore the potential influence of knowledge and recognition on perception of risk. In addition to descriptive statistics, inferential statistics were included. These results explored the predictors of perception of risk as described by Moore and Rosenthal (1996).

### **7.3 Comparative beliefs about illnesses**

***Research Question 1: Women in this study will conceptualise their perceived risk of depression differently from their perceived risk of other physical illnesses.***

This research question suggests that women in this study would conceptualize their perceived risk of depression differently from their perceived risk of other illnesses was explored through a comparative analysis of perception of risk. This research question was supported. The results provide a profile of the factors women considered important when considering their perceived risk of experiencing depression, which differ from the factors considered important in other illnesses.

Table 5 identifies respondents comparative beliefs across each of the four illnesses in relation to the following illness dimensions as described in section 6.2 of the methodology; i) the perceived likelihood of getting the illness, ii) the perceived seriousness of each illness, iii) whether there is at least some control over avoiding it, iv) stereotypes or ‘typical’ illness sufferers, v) the perceived commonness of the illness, vi) respondents who know or knew a sufferer, vii) the amount respondents felt they know about an illness and, viii) the attitude respondents have about the illness. The findings for each of these illness dimensions are described below from a descriptive perspective with a visual analysis of trends, replicating the charting of perception of risk of illness undertaken by Moore and Rosenthal (1996).

As displayed in Table 5 few participants viewed themselves as highly vulnerable to the illnesses, as measured by the perceived risk variable. When considering perceived risk as ‘low risk’ as measured by the extremely unlikely or unlikely categories on the perceived risk dimension, or as ‘high risk’ as measured by the extremely likely or the likely categories, perceived risk rates were lowest for HIV/AIDS (98%) and highest for Depression (53.4%).

**Table 5** Comparative beliefs about illnesses

		HIV/AIDS	Diabetes	Depression	B Cancer
<b>Perceived Risk</b>	<b>Ext unlikely</b>	85.7%	11.4%	16.2%	6.7%
	<b>Unlikely</b>	12.4	39	30.5	45.7
	<b>Likely</b>	1	33.3	22.9	37.1
	<b>Ext likely</b>	1	16.2	30.5	10.5
<b>Perceived Ser</b>	<b>Not Serious</b>	1			
	<b>Serious</b>	1	20	5.7	
	<b>Very serious</b>	10.5	40	38.1	12.4
	<b>Ext serious</b>	87.6	40	56.2	87.6
<b>Perceived Control</b>	<b>Abs not</b>	1	19	21.9	45.7
	<b>Some extent</b>	39	74.3	64.8	53.3
	<b>Yes abs</b>	60	6.7	13.3	1
<b>Stereotype</b>	<b>No</b>	2.9	11.4	15.2	18.1
	<b>Unsure</b>	15.2	27.6	32.4	27.6
	<b>Yes no name</b>	1	1.9		1
	<b>Yes named</b>	81	59	52.4	53.3
<b>Perceived Comm</b>	<b>Ext uncomm</b>	1.9	1		1
	<b>Very uncomm</b>	7.6	1.9	1.9	1
	<b>Somewhat uncomm</b>	18.1	2.9	1.9	2.9
	<b>Comm.</b>	28.6	20	10.5	16.2
	<b>Somewhat comm.</b>	31.4	22.9	23.8	31.4
	<b>Very comm.</b>	8.6	27.6	31.4	24.8
	<b>Ext comm.</b>	3.8	23.8	30.5	22.9
<b>Know Sufferer</b>	<b>No one</b>	72.4	3.8	8.6	17.1
	<b>Acquaint</b>	17.1	7.6	15.2	22.9
	<b>Close friend family</b>	10.5	88.6	76.2	60
<b>Knowledge</b>	<b>Nothing</b>	1		1	
	<b>Some</b>	28.6	27.6	27.6	33.3
	<b>Much</b>	59	56.2	42.9	54.3
	<b>Lot</b>	11.4	16.2	28.6	12.4
<b>Attitudes</b>	<b>Very Positive</b>		1.9	1	1
	<b>Positive</b>	5.7	78.1	37.1	47.6
	<b>Negative</b>	50.5	18.1	53.3	46.7
	<b>Very negative</b>	43.8	1.9	8.6	4.8

### Legend of Abbreviations

Ext Unlikely = Extremely unlikely  
 Ext Likely = Extremely likely  
 Perceived Ser = Perceived Seriousness  
 Ext Serious = Extremely serious  
 Abs not = Absolutely not  
 Yes abs = Yes absolutely  
 Perceived Comm = Perceived Commonness

Ext uncomm = Extremely uncommon  
 Very uncomm = Very uncommon  
 Somewhat uncomm = Somewhat uncommon  
 Comm = Common  
 Somewhat comm = Somewhat common  
 Very comm = Very common  
 Ext comm = Extremely common  
 Acquaint = Acquaintance

Rates for perceived risk were around 50% for Diabetes (49.5%). A high-perceived risk for Breast Cancer was reported by in excess of 47%.

HIV/AIDS and Breast Cancer were recognized by a clear majority as extremely serious illnesses followed by Depression. Over 56% of the sample recognized Depression as extremely serious. Even though Diabetes was considered overall the least serious in this sample, over 40% reported that it was extremely serious.

About 64% of participants perceived that they had at least some control over avoiding Depression. Despite this result there were 21.9% who believed that they had absolutely no control over experiencing the illness. Diabetes was reported to be the illness that people perceived they had the most control over, with 74.3% reporting control to some extent. Breast Cancer was listed as the disease which participants had least control over contracting (45.7%).

Categorizing or stereotyping of a typical sufferer was highest for HIV/AIDS (81%), and moderate for the other illnesses, with Depression sufferers being stereotyped by 52.4% of participants. For HIV/AIDS those practicing unsafe sex and sharing needles were mentioned by nearly all of those who grouped sufferers. Depression stereotypes included new mothers, people who have experienced loss and those with a family history of depression. In relation to stereotypes, the perceived categories of those vulnerable to each illness are shown in Table 6. The table includes the mean number of categories as mentioned by participants, as well a description of the type of perceived categories mentioned. Each category was mentioned by 10% or more of the sample participants for each illness.

The most commonly occurring illness of the four was perceived to be Depression (96.2%), closely followed by Breast Cancer (95.3%), and by Diabetes (94.3%).

More than 76.2% of the sample reported knowing a close friend or family member with Depression, which was the highest rate, whereas only 10.5% of the sample reported knowing a close friend or family member with HIV/AIDS. Knowledge of a sufferer was also high for Diabetes (88.6%), but lower for Breast Cancer, 60%. Surprisingly the visual trends suggested that knowing someone with Depression, HIV/AIDS or Breast Cancer didn't correspond with perceived commonness as described above.

With respect to perceived knowledge, participants reported being moderately knowledgeable about all of the illnesses, but most knowledgeable about Diabetes (72.4%) and Depression (71.5%). Again the visual trends suggested that knowledge of an illness did not appear to correspond with knowledge of a sufferer

Attitudes were more negative toward HIV/AIDS (94.3%) than any other of the illnesses, with attitudes towards Diabetes (20%) being the least negative. Depression was rated as the second most negative with 61.9% reporting negative attitudes.

In summary, over 53% of participants reported themselves to be either likely or extremely likely to become depressed. Similarly over 56.2% rated Depression as extremely serious, with 64.8% of participants claiming that they had some control over avoiding Depression. Fifty-two percent of the sample was able to name stereotypes of a typical sufferer of Depression, and over 96% of the sample perceived

Depression to be more common than Breast Cancer, Diabetes and HIV/AIDS. Over three quarters of the sample (76.2%) were able to recall knowing a close friend or family member with depression. In addition, in excess of 91.4% of the sample reported being at least moderately knowledgeable about Depression. Attitudes to Depression were negative in 61.9% of the participants.

***Research Question 2: Stereotypical representations of the typical sufferer will exist for depression.***

The research question that women within the present study would report stereotypical representations for the typical sufferer of depression was explored. Participants in this study were able to list categories of typical sufferers of depression that differed from typical sufferers of other illnesses, with the exception of family history which was listed for three (Diabetes, Depression, Breast Cancer) of the four illnesses. Further categories of stereotypical sufferers of depression included those experiencing trauma and/or stress, new mothers and those with emotional problems.

**Table 6** Perceived categories of those vulnerable to the illness

Illness	Mean No. Categories mentioned per participant	Categories mentioned by 10% or more of the sample (% listed)
HIV/AIDS	1.8	Drug Users I.V (59%) Unprotected Sex (38%) Homosexuals (35%) Lifestyle (17%) Blood Contact (17%) Country of Birth (13%)
Diabetes	1.4	Family History (42%) Weight (34%) Diet (30%) Age (15%) Lifestyle (14%)
Depression	1.0	Trauma/stress (34%) Family History (21%) New Mothers (14%) Emotional Probs (11%)
Breast Cancer	.99	Family History (44%) Gender (18%) Age (14%) Education (10%)

#### 7.4 Understanding depression

***Hypothesis 1: There will be a positive association between reported knowledge of depression and recognition of depression.***

The hypothesis that there would be a positive association between reported knowledge of depression and recognition of depression was not supported. Reported knowledge of depression was categorically measured by the ‘knowledge of the illness’ variable on the Perception of Illness Risk questionnaire. Recognition of depression was measured using the Mental Health Literacy Vignettes as described in section 6.2.2 of the methodology. Spearman’s correlation was performed on level of reported

knowledge of depression and ability to recognise depression from a mental health literacy vignette. The results indicate that there was no significant association between reported knowledge of depression and ability to recognise depression ( $r=.16$ ,  $n=105$ ,  $p=.091$ ).

***Hypothesis 2: There will be a positive association between reported depression and recognition of depression.***

Data collected from the BDI-II regarding depression status and ability to recognise depression from a vignette as captured by the Mental Health Literacy Vignettes was used to test this hypothesis. This hypothesis was not supported. A Pearson's correlation revealed that the association between reported depression as measured on the BDI-II and recognition of depression was very weak and not statistically significant ( $r=.05$ ,  $n=105$ ,  $p=.611$ ). Despite this hypothesis not being supported there were interesting and unexpected trends identified concerning reported levels of depression and ability to recognise depression from the research. An additional finding provided evidence that a significant, moderate positive association existed between reported depression and perception of risk ( $r=.46$ ,  $n=105$ ,  $p<.001$ ).

Despite this being a 'non-clinical' sample, of the 105 participants, 57% of the current sample described symptoms of depression that were measured according to the BDI-II as above the normal range for depression. Levels of depression in the current study ranged from asymptomatic to extremely severe. Within this portion of the sample 35.2% ( $n=37$ ) reported levels of depression within the mild range, 16.2% ( $n=17$ ) reported levels of depression within the moderate range and 5.7% ( $n=6$ ) of the sample

reported depression within the severe and extremely severe range. Forty-three percent of the sample reported their levels of depression to be within the normal range as described by the BDI-II.

Of the current sample 84.8% were able to recognise and name depression as presented in a vignette related to health literacy. Over 15% were unable to recognise and name depression in the same scenario. In these instances many respondents were able to describe circumstances like stress and sadness as accounting for the symptoms presented in the vignette.

An interesting result from this analysis identified four separate sub-categories of participants that were found to be important in relation to personal perception of risk. In excess of 47.6% of the sample reported levels of depression outside of the normal range and were able to identify depression from the health literacy vignette (DR = depressed + recognised). Interestingly 8.6% of the sample reported levels of depression in excess of the normal range and were not able to recognise depression from the description of depression provided in the health literacy vignette (DNR = depressed + not recognised). Conversely 37.1% of the sample reported levels of depression within the normal range and were also able to identify depression from the health literacy vignette (NDR = not depressed + recognised). In addition, 6.6% of the population reported levels of depression within the normal range and were unable to recognise depression from the description of depression provided in the health literacy vignette (NDNR = not depressed + not recognised). Table 7 summarises this categorisation of participants and indicates the number of participants within each category.

**Table 7** Recognition of depression as a function of depression assessment

	Depressed (BDI-II > 9)	Not Depressed (BDI-II <=9)	Total
Recognised Depression	n=50 <sup>1</sup> (47.6%)	n=39 <sup>3</sup> (37.1%)	n=89 (84.7%)
Not Recog Depression	n=9 <sup>2</sup> (8.6%)	n=7 <sup>4</sup> (6.7%)	n=16 (15.6%)
	n=59 (56.2%)	n=46 (43.8%)	n=105 (100%)

**Legend for categories**

- <sup>1</sup> = (DR), those who are depressed and recognise depression from a health literacy vignette  
<sup>2</sup> = (DNR), those who are depressed and do not recognise depression from a health literacy vignette  
<sup>3</sup> = (NDR), those who are not depressed and recognise depression from a health literacy vignette  
<sup>4</sup> = (NDNR), those who are not depressed and do not recognise depression from a health literacy vignette

**7.4.1 Beliefs about depression as influenced by depressive status**

The data revealed an unexpected finding, that is, a large proportion of the sample was classified as depressed on the BDI-II. This interesting finding led to a re-examination of the descriptive information with respect to the participant category to understand whether personal experience of depression and objective knowledge of depression as an illness impacted on the illness beliefs, including perception of risk.

Tables 8a-h contain the Beliefs about Depression arranged according to each of the sub-categories identified including, those who were depressed and recognised depression from a health literacy vignette (DR), those who were depressed and did not recognise depression from a health literacy vignette (DNR), those who were not depressed and recognised depression from a health literacy vignette (NDR) and those who were not depressed and did not recognise depression from a health literacy vignette (NDNR).

**Table 8a** Perception of risk of depression according to sub-categories

		<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Perceived Risk</b>	<b>Ext unlikely</b>	2.0%	11.1%	30.8%	42.9%
	<b>Unlikely</b>	28.0%	33.3%	33.3%	28.6%
	<b>Likely</b>	24.0%	44.4%	20.5%	
	<b>Ext likely</b>	46.0%	11.1%	15.4%	28.6%

Table 8A shows that of the 50 ‘DR’ participants, 70% reported their perception of risk for depression as either likely or extremely likely. Of the 9 ‘DNR’ participants, over 55% of respondents reported their perception of risk for depression as either likely or extremely likely. Of the 39 ‘NDR’ participants, over 64% of respondents reported their perception of risk for depression as either unlikely or extremely unlikely. Of the 7 ‘NDNR’ participants, over 71% of participants reported their perception of risk for depression as either unlikely or extremely unlikely.

**Table 8b** Perceived seriousness of depression according to sub-categories

		<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Perceived Ser</b>	<b>Serious</b>	4.0%	11.1%	5.1%	14.3%
	<b>Very serious</b>	38.0%	55.6%	41.0%	
	<b>Ext serious</b>	58.0%	33.3%	53.8%	85.7%

Table 8b shows that of the 50 ‘DR’ participants, 96% of participants reported that depression was either very serious or extremely serious. Of the 9 ‘DNR’ participants, over 88% of participants reported that depression was either very serious or extremely serious. Of the 39 ‘NDR’ participants, 94% of participants reported that depression was either very serious or extremely serious. Of the 7 “NDNR” participants, over 85% of participants reported that depression was extremely serious.

**Table 8c** Perceived control of depression according to sub-categories

		<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Perceived Control</b>	<b>Abs not</b>	24.0%	33.3%	12.8%	42.9%
	<b>Some extent</b>	64.0%	66.7%	69.2%	42.9%
	<b>Yes abs</b>	12.0%		17.9%	14.3%

Table 8c shows that of the 50 'DR' participants, 76% of participants reported that they perceived at least some if not absolute control over avoiding depression. Of the 9 'DNR' participants, 66.7% of participants perceived that they had some control over avoiding depression. Of the 39 'NDR' participants, over 87% of participants reported that they perceived they had some control over avoiding depression. Of the 7 'NDNR' participants, over 57% reported that they perceived that they had at least some control over avoiding depression.

**Table 8d** Stereotypes of depression sufferers according to sub-categories

		<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Stereotype</b>	<b>No</b>	18.0%	11.1%	12.8%	14.3%
	<b>Unsure</b>	22.0%	22.2%	46.2%	42.9%
	<b>Yes named</b>	60.0%	66.7%	41.0%	42.9%

Table 8d shows that of the 50 'DR' participants, 60% of participants were able to name stereotypes of depression sufferers. Of the 9 'DNR' participants, over 66% of participants were able to name stereotypes of depression sufferers. Of the 39 'NDR' participants 41% of participants were able to name stereotypes of depression sufferers. Of the 7 'NDNR' participants, over 42% of participants were able to name stereotypes of depression sufferers.

**Table 8e** Perceived commonness of depression according to sub-categories

	<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Perceived Comm</b>	<b>Ext uncomm</b>			
	<b>Very uncomm</b>		5.1%	
	<b>Somewhat uncomm</b>	11.1%	2.6%	
	<b>Comm.</b>	14.0%	5.1%	28.6%
	<b>Somewhat comm.</b>	24.0%	30.8%	14.3%
	<b>Very comm.</b>	32.0%	28.2%	28.6%
	<b>Ext comm</b>	30.0%	28.2%	28.6%

Table 8e shows that of the 50 'DR' participants, all perceived depression to be common, with 30% reporting that they believed it was extremely common. Of the 9 'DNR' participants, 11% perceived depression to be somewhat uncommon, with the remainder of participants reporting that they felt it was either very common or extremely common. Of the 39 'NDR' participants, over 92% perceived depression to be common, with the remaining 7.7% reporting that they felt it was uncommon. Of the 7 'NDNR' participants, all perceived that depression was common, with over 28% reporting that they felt it was extremely common.

**Table 8f** Knowledge of a sufferer of depression according to sub-categories

		<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Know Sufferer</b>	<b>No</b>	8.0%		7.7%	28.6%
	<b>Acquaint</b>	12.0%	11.1%	20.5%	14.3%
	<b>Close friend family</b>	80.0%	88.9%	71.8%	57.1%

Table 8f shows that of the 50 'DR' participants, 92% of participants reported knowing someone with depression. Of the 9 'DNR' participants, all participants reported knowing someone with depression. Of the 39 'NDR' participants, over 92% of the sample reported knowing someone with depression. Further, of the 7 'NDNR' participants, over 71% of the sample reported knowing someone with depression.

**Table 8g** Knowledge about depression according to sub-categories

		<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Knowledge</b>	<b>Nothing</b>				14.3%
	<b>Some</b>	34.0%	33.3%	17.9%	28.6%
	<b>Much</b>	30.0%	55.6%	56.4%	42.9%
	<b>lot</b>	36.0%	11.1%	25.6%	14.3%

Table 8g shows that of the 50 'DR' participants, all reported having knowledge about depression, with 36% reporting a lot of knowledge about depression. Of the 9 'DNR' participants, all reported having knowledge about depression, with over 11% reporting ample knowledge about depression. Of the 39 'NDR' participants, all reported having knowledge about depression, with over 25% reporting a lot of knowledge about depression. In addition, of the 7 'NDNR' participants, over 14% reported having no knowledge about depression.

**Table 8h** Attitudes toward depression according to sub-categories

		<b>DR</b> n=50	<b>DNR</b> n=9	<b>NDR</b> n=39	<b>NDNR</b> n=7
<b>Attitudes</b>	<b>Very Positive</b>				2.6%
	<b>Positive</b>	28.0%	55.6%	41.0%	57.1%
	<b>Negative</b>	60.0%	33.3%	51.3%	42.9%
	<b>Very negative</b>	12.0%	11.1%	5.1%	

Table 8h shows that of the 50 'DR' participants, 72% of participants reported negative attitudes towards depression. Of the 9 'DNR' participants, over 44% of participants reported negative attitudes towards depression. Of the 39 'NDR' participants, over 56% of participants reported negative attitudes towards depression. In addition, of the 7 'NDNR' participants, over 42% of participants reported negative attitudes towards depression.

## **7.5 Predicting risk of depression**

***Hypothesis 3: There will be a negative association between perception of risk for depression and optimistic bias measured as a global unidimensional personality construct.***

This hypothesis was supported. Pearson's correlation revealed that a significant albeit weak negative relationship existed between perception of risk (measured on the Perception of Illness Risk) and optimistic bias (measured on the Life Events Questionnaire) ( $r=-.22$ ,  $n=105$ ,  $p<.05$ ). While this relationship was weak, it did support the notion that as perception of risk increased, optimistic bias, or the tendency to believe oneself to be less vulnerable, decreased. When this relationship was explored further there was no evidence that perception of risk for depression actually predicted an optimistic bias. Perception of risk accounted for only 5.7% of the variance in optimistic bias when measured as a global unidimensional personality construct.

***Hypothesis 4: Optimistic bias as a series of semi-independent constructs will predict perceived risk of depression***

For each of the illnesses, standard multiple regression analyses were carried out in which perceived risk was the dependent variable, and the five factors postulated by Weinstein to predict perception of risk were the independent variables (perceived seriousness, perceived control, stereotyping of a sufferer, perceived commonness of

the disease, knowledge of a sufferer). In addition, knowledge and attitudes were also factored into the analysis in line with Moore and Rosenthal's methodology (1996).

The significant correlations include, perceived seriousness ( $r=.21$ ,  $n=105$ ,  $p=.03$ ), perceived control ( $r=-.29$ ,  $n=105$ ,  $p<.05$ ), perceived commonness, ( $r=.29$ ,  $n=105$ ,  $p<.05$ ), knowledge of a sufferer ( $r=.34$ ,  $n=105$ ,  $p<.001$ ) and knowledge of the illness ( $r=.37$ ,  $n=105$ ,  $p<.001$ ).

The beta weights for the standard regression equations, with their respective F and R square values are shown in Table 9.

**Table 9** Regression weights for prediction of perceived risk

Total N = 105	HIV/AIDS	Diabetes	Depression	Breast Cancer
Perceived Seriousness	.09	.30**	.08	.09
Perceived Control	-.26*	-.04	-.22*	-.24*
Stereotyping of sufferers	.05	-.05	.11	.30
Perceived Commonness	.12	-.02	-.06	.07
Knowledge of a sufferer	.07	.96	.16	.07
Knowledge of illness	.19	.13	.25*	.30**
Negative attitudes	.03	.02	.05	.07
F	1.28	2.18*	4.97***	3.45**
Adj R <sup>2</sup>	.04	.07	.21	.14

Note: p\* < .05; p\*\* < .01; p\*\*\* < .001

As shown in Table 9, Perceived risk was significantly predicted by the Weinstein (1980) and the Moore and Rosenthal (1996) factors combined, for 3 out of the 4 illnesses. With the exception of HIV/AIDS  $F(7,97)=1.28$ ,  $p=.125$ , all the other

regression equations were statistically significant. The relationship in the sample between perception of risk and the predictor variables for diabetes was significant ( $F(7,97)=2.18, p<.05$ ). The relationship in the sample between perception of risk and the predictor variables for depression was also significant ( $F(7,97)=4.97, p<.001$ ). The relationship in the sample between perception of risk and the predictor variables for breast cancer was significant ( $F(7,97)=3.45, p<.01$ ). The percentage of variance accounted by the model for each illness ranged from 4% for HIV/AIDS to 21% for Depression.

Perceived seriousness was a significant predictor for perception of risk in Diabetes, but not for the other three illnesses. High seriousness in this case was associated with high perceived risk for Diabetes.

Perceived control significantly predicted perception of risk in three of the illnesses, HIV/AIDS, Depression and Breast Cancer. The associations revealed that generally the more control participants felt they had, the less at risk they felt they were. Stereotyping of sufferers, and perceived commonness did not predict perceived risk in any of the illnesses.

Those who knew a person with the illness/disease were not significantly more likely to view themselves as at risk of Depression, HIV/AIDS, Diabetes or Breast Cancer. However, knowledge of the illness was a significant predictor of perceived risk in Depression and Breast Cancer. This result suggested that the more participants reported to know about Depression and Breast Cancer the more vulnerable to the illness they perceived themselves to be.

As shown above in Table 9 the model of optimistic bias as a series of semi-independent illness based constructs was demonstrated to predict perception of risk for depression. Therefore this hypothesis was supported. It appeared that perceived control and knowledge of the illness were the most significant predictors when considering the variables as semi-independent constructs. The model accounted for twenty-one percent of the variance for perception of risk of depression. When considering the amount of variance accounted for by this model, perceived risk of depression accounted for more than any other illness. This finding was significant at the  $p<.001$  level compared to the  $p<.01$  and  $p<.05$  levels for Breast Cancer and Diabetes respectively.

***Hypothesis 5: Optimistic bias as a global unidimensional construct will predict perceived risk of depression.***

Table 10 displays the hierarchical regression summary as described below. This analysis involved examining the contribution of the global personality construct of optimistic bias and was entered as the first step in the hierarchy. The second step involved the addition of the illness specific (state) factors described by Weinstein (1980) and Moore and Rosenthal (1996). By adding the second step the strength of each model could be tested.

This hypothesis was tested using hierarchical regression to determine to contribution of semi-independent variables (state) and the contribution of the more global unidimensional (personality) construct. When using the global measure of optimistic bias the model was revealed to significantly predict perception of risk  $F(3,101)=4.09$ ,

$p<.01$ . A comparison of models revealed that the model examined by Moore and Rosenthal (1996) using the semi-independent factors postulated by Weinstein, acted as a significant predictor for perceived risk  $F(10,94)=5.01$ ,  $p<.001$ . The variance accounted for by the first optimistic bias global personality model was 8.2%, whilst the variance accounted for by the second optimistic bias illness specific state factors model was 27.8%. When examining the contribution made by both models, the state and personality based contributions accounted for 36% of the variance for perceived risk. Therefore this hypothesis that optimistic bias as a global construct would predict perception of risk for depression was also supported.

**Table 10** Hierarchical regression weights for prediction of perceived risk

	Total N = 105	B (Std)	t	Sig
<b>Model 1</b>	Optimistic Bias	-.445	-.716	.047*
	Pessimistic Bias	.085	.168	.867
<b>Model 2</b>	Perceived Seriousness	.068	.724	.471
	Perceived Control	-.209	-2.34	.022*
	Stereotyping of sufferers	.131	1.51	.135
	Perceived Commonness	.091	.889	.376
	Knowledge of a sufferer	.104	1.05	.298
	Knowledge of illness	.246	2.25	.027*
	Negative attitudes	-.063	-.665	.508

Note:  $p^*<.05$

As expected the perceived seriousness and knowledge of the illness maintained their predictive capacity. In this analysis optimistic bias significantly predicted perception of risk of depression.

## **7.6 Summary of results**

Inspection of the demographic profile of the sample suggested that the women within this study were generally representative of the general population with respect to age. The fact that 62% of the sample had undertaken some form of tertiary education may suggest that tertiary educated women are over-represented in this sample.

Like Moore and Rosenthal (1996) part of this study was designed to develop a comparative chart of beliefs for perception of risk. In this study a comparison was sought between perception of risk for depression as a mental illness and perception of risk for HIV/AIDS, Diabetes and Breast Cancer as physical illnesses. Developing these profiles revealed that 96% of the sample believed depression was a common illness, 91.4% believed that had more than adequate knowledge about depression as an illness, 76.2% were able to recall personal knowledge of a sufferer, 64.8% believed that they had some control over avoiding depression, 61.9% expressed negative attitudes towards depression, 56.2% believed that depression was a serious illness, and finally 53% perceived their risk of depression to be high. Perception of risk was demonstrated by these profiles to be different for each illness examined. Overall participants perceived their risk to be greatest for Depression, as opposed to HIV/AIDS, Diabetes or Breast Cancer.

In addition to perceiving themselves to be at risk for depression, the women within this study were able to list a number of categories of stereotypical sufferers. This list most commonly included, trauma/stress, family history, new mothers and those with emotional problems. These stereotypes differed from the stereotypes listed for the

other illness examined with the exception of family history, which was described as a stereotypical representation of a sufferer for Diabetes and Breast Cancer as well.

Of the sample 57% of women reported levels of depression outside of the normal range. Despite suggesting that there would be a positive association between reported knowledge of depression and ability to recognise depression from a mental health literacy vignette, no such relationship was found. Similarly, the supposed positive association between reported levels of depression as measured by the BDI-II and the ability to recognise depression from a mental health literacy vignette was not supported. Although a moderate positive relationship was discovered for perceived risk of depression and reported levels of depression.

There was some evidence that those who reported levels of depression were unable to recognise depression from the scenario. This surprise finding warranted further investigation that revealed that the chart of perceived risk for depression compiled for comparison with other illnesses was altered in light of reported levels of depression and ability to recognise depression. When perception of risk was re-examined for the newly identified subgroups {those who were depressed and recognised depression from a health literacy vignette (DR), those who were depressed and did not recognise depression from a health literacy vignette (DNR), those who were not depressed and recognised depression from a health literacy vignette (NDR) and those who were not depressed and did not recognise depression from a health literacy vignette (NDNR)}. Not surprisingly the DR group perceived their risk of depression as highest (70%), with DNR perceiving their risk to be 55.5%, while NDR perceived their risk level to be 35.9% and NDNR reported 28.6%. these subgroups all perceived depression to be

serious with 96% among the DR group reporting high levels of seriousness. The NDNR group reported the lowest levels of perceived control (57.2%) while the NDR group reported the highest levels of perceived control (87.1%). All groups named stereotypical sufferers, with the DNR group naming stereotypes in 66.7% of cases and the NDR group naming in 41% of cases. Commonness was perceived to be high in the population by all groups with evidence that the DNR group believed it to be common in 88.8% of cases. Similarly knowledge of a sufferer was high for all groups with the NDNR group reported personal knowledge of a sufferer in 71.4% of instances. An interesting, although not surprising finding suggested that knowledge about depression was low among the NDNR group, with 14.3 reporting no knowledge of depression. Finally attitudes toward depression were negative in most cases with the DR group reporting the most negative attitudes (72%).

There was some evidence to suggest that a negative association between perception of risk and optimistic bias existed, with a statistically significant, albeit mild, negative relationship being uncovered. The model of optimistic bias as a series of semi-independent (state) constructs did significantly predict perception of risk for depression. This model also predicted perception of risk for Diabetes and Breast Cancer. Two factors were revealed to be most significant for predicting perceived risk. These were perceived control and knowledge about the illness. Further this model accounted for 21% of variance in perceived risk of depression. When examining the model of optimistic bias as a unidimensional (personality) construct, evidence revealed that this model also predicted perception of risk for depression. Interestingly when exploring the contribution of each of these models, the semi-independent model accounted for more variance (27.8%) than then unidimensional

model (8.2%). When combined these models accounted for 36% of variance of the dependent variable, perception of risk of depression.

## CHAPTER EIGHT

### DISCUSSION: INTERPRETATION AND IMPLICATIONS OF THE FINDINGS

This Chapter discusses the interpretation and implications of the findings. First, the key results are discussed in relation to the original aims, research questions and hypotheses of the study. The implications of the current study for theory are discussed with the limitations and strengths for each key area. Finally, the implications for practice, public policy and research in the areas of perceived risk, depression and optimistic bias are addressed.

#### **8. Aims, research questions and hypotheses**

The first aim of the present research was to explore the relationship between optimistic bias and women's perception of their risk of experiencing depression. Specifically this project evaluated the predictive value of the optimistic bias models conceptualised as a series of semi-independent illness specific constructs, and as a global personality construct. In part this involved exploring whether optimistic bias as a model of perception of risk, traditionally applied to physical health issues was also applicable to mental health issues, in particular to depression. The second aim was to explore women's conceptualisations of depression and to develop a profile of perceived risk of depression relative to physical illnesses including Diabetes, HIV/AIDS and Breast Cancer. The third aim of the research was to determine if women in this study conceptualised depression in the same way, and were therefore able to recognise depression on the basis of the same information. Each aim will be

addressed according to the research questions and the hypotheses of the study and are discussed below.

The results of the present study supported the hypothesis that optimistic bias when conceptualised as a state/illness specific series of constructs as defined by Weinstein (1980) and Moore and Rosenthal (1996) significantly predicted perception of risk of depression. The results also supported the hypothesis that optimistic bias conceptualised as a personality construct, significantly predicted perception of risk for depression. Further, the results of the present study supported the hypothesis that a negative association would exist between the personality construct of optimistic bias and perception of risk of depression. The hypothesis that a positive association would exist between reported depression and the ability to recognise depression was not supported by the results of the present study. Similarly, the results did not support the hypothesis that a positive association would exist between reported knowledge of depression and the ability to recognise depression. The results did support the general research question that stereotypical representations of depression sufferers would exist. Finally, the research question that women in this study would conceptualise their perceived risk of depression differently from their perceived risk of other physical illnesses was supported.

## **8.1 Interpretation of results and implications for relevant theory**

### **8.1.1 Optimistic bias and perception of risk of depression**

This study was the first to examine the relationship between subjective perception of risk of depression and optimistic bias from both the state / illness specific perspective

and the more global personality perspective. The findings of the present study supported the findings of previous research by Weinstein (1980, 1984, 1987, 1989) and by Moore and Rosenthal (1996), who reported a link between optimistic bias and perception of risk of illness. The critical finding of the current work was the strong and significant predictive validity of the Weinstein (1980) and Moore and Rosenthal (1996) model of perception of risk for women's subjective risk of depression. This model of predicting perception of risk as a series of semi-independent illness specific constructs was significantly more predictive for depression than for any of the physical illnesses studied. The study also identified the significant but less powerful predictive validity of the more global personality dimension of optimistic bias as advocated by Chang and colleagues (1997) and Davidson and Prkachin (1997).

The important finding that the series of illness specific constructs defined by Weinstein (1980) and Moore and Rosenthal (1996) was significantly predictive of perception of risk for depression, supported the assertions made by Nezlek and Zebrowski (2001). According to Nezlek and Zebrowski (2001) given the possible complex multidimensional nature of perceived risks for health problems, perceptions of risk for specific types of problems reflected fluid state processes. That is, processes specific to each type of problem, more than they reflected some global personality construct of optimistic bias (Nezlek & Zebrowski, 2001). They went on to suggest that the semi-independent multidimensional model (known as the semi-independent, illness specific / state based model in this research) suggested that optimistic bias about health outcomes may be related to different psychological constructs and may reflect different psychological processes than the personality processes often associated with optimism (Nezlek & Zebrowski, 2001).

A more detailed examination with respect to the semi-independent illness specific state model of perception of risk utilised in this study, revealed that perceived control and knowledge of the illness were both significant predictors of perception of risk for depression (McKenna, 1993; Scheier & Carver, 1987; Weinstein, 1987, 1989). This finding supported the research by Moore and Rosenthal (1996) and Riechard and Peterson (1998) who stated that perceived control over an illness significantly predicted perceived risk. McKenna (1993) argued for the importance of illness specific perceived controllability in the operation of optimistic bias. Subsequent research exploring the operationalisation of perceived control reported that perceptions of risk were lower if individuals believed they had control over the risk (Riechard & Peterson, 1998). Further that lower perceptions of risk could be attributable to optimistic bias. The direction of this argument generally suggested that as sense of control increased, optimistic bias also increased. Weinstein (1987) argued that because of egocentricity individuals forget that their own efforts to reduce the likelihood of a negative event might be shared by others. Essentially, they credit themselves with more control than they do others. Presumably this sense of control stems from the belief that they could and would take actions that would affect illness occurrence and reduce their risk (Taylor & Sheppard, 1998).

The relative importance of finding that perceived control was predictive of perception of risk should not be underestimated, particularly given that depression has been reported by the community as a ‘controllable’ illness (Taylor & Sheppard, 1998). The follow-on effect of the community considering depression as controllable is the notion that as previously stated, individuals are more optimistic when they believe they are in control. A critical implication of this finding is that feeling in control is likely to

reduce subjective perception of risk, thereby reducing motivation to engage in protective behaviours including help seeking.

The other illness specific factor demonstrated within this study to be significantly predictive of perception of risk for depression was knowledge of the illness. Whilst knowledge of the illness has been examined in relation to perception of risk and actual behaviour, contradictory findings have emerged from the physical health literature about this relationship. The work of Moore and Rosenthal (1996) suggested that knowledge of the illness should increase the accuracy of assessment of one's own risk. Similarly Eiser and colleagues (1993) reported that knowledge about the illness generally formed the basis for protective behaviour. More recently however findings De Nooyer and colleagues (2001) and Sheikh and Ogden (1998) suggested that reporting fair knowledge about an illness was not entirely predictive of protective and help seeking behaviour.

Interestingly, Hight and colleagues (2002) reported that the Australian community had little specific knowledge about depression. Research such as that by Ratliff and colleagues (1999) observed the complexity of the function of knowledge for influencing both perceptions of risk of illness and actual health behaviours. Further, Shao and colleagues (1997) reported that a lack of knowledge and information could cause misinterpretation of symptoms and fear. In light of the contradictions within the literature, the finding of the current study that knowledge of the illness was an important predictor for perception of risk of depression raises a number of interesting questions. In particular, about how women use knowledge when assessing their risk of depression. Given that the women within this study supported the notion that

knowledge of the illness was an important factor in perception of risk of depression, understanding the role of objective and subjective knowledge in the formation of risk perceptions, while considering a measure or test of knowledge about depression are important considerations for future research.

In addition to the finding that the optimistic bias model incorporating a series of semi-independent illness-specific (state) constructs was a more significant predictor of perception of risk for depression was the finding that the global personality model of perception of risk was also predictive. Although Nezlek and Zebrowski (2001) argued that the one-factor personality model of optimistic bias did not adequately explain perception of risk, this study found that as the global personality construct of optimistic bias increased, perception of risk of depression decreased. This finding corroborated the body of work in the literature that those exhibiting an optimistic bias have lower levels of perceived risk (Chapin, 2001; Darvill & Johnson, 1991; Davidson & Prkachin, 1997; Dewberry, et al., 1989; Harris & Middleton, 1994; McKenna, 1993; Rutter, et al., 1998; Scheier & Carver, 1985; Weinstein, 1980, 1982, 1983, 1984, 1987, 1988, 1989). In addition this research extended the application to perception of risk of depression.

Using the personality (global) construct of optimistic bias it was discovered that a stable personality predisposition towards optimism could significantly reduce an individual's capacity to accurately perceive their level of risk for depression. The role of such a stable personality construct has been discussed in relation to a number of protective mechanisms. While research such as that by Jorm and colleagues (2002) and Preboth (2000) argued that certain personality styles were more prone to

developing depression, Dewberry and colleagues (1989) argued that those with the personality tendency to be optimistically biased regulated unpleasant feelings by perceiving their vulnerability as lower than average. This tendency was described as a paradigm of defensive denial designed to reduce the anxiety generated by acknowledging that one is at risk (Dewberry et al., 1989; Weinstein, 1980). Weinstein and Lachendro (1982) and Tennen and Affleck (1987) suggested that optimistic bias was an ego-defensive propensity designed to maintain an individual's self image by cognitively distancing themselves from a threat. These phenomena are closely aligned to the concept of control previously discussed in relation to illness specific influences on perception of risk of depression. Despite the potential overlap between perceived control in both of the models examined in this study, Darvill and Johnson, (1991) advocated that stable personality style enabled sense of control to function as a personality mechanism when supported by 'other' illness specific factors.

After demonstrating the statistically significant predictive validity of both of the models of optimistic bias, further inferential analysis revealed that combining both state and personality models of optimistic bias accounted for a significant amount of additional variation in perception of risk of depression. This important finding endorsed the stance that considering the contribution of both fluid illness specific factors and more stable personality dimensions could enhance understanding perception of risk of depression.

A number of important implications arise from understanding perception of risk of depression from the perspective of optimistic bias. Initially, the theoretical literature

exploring perception of risk of illness and optimistic bias stated that those who demonstrated an optimistic bias did not acknowledge their own risk, and were therefore particularly vulnerable when things went wrong. Further, a failure to acknowledge risk has been linked to a failure to engage in adaptive coping and preventative health behaviour (Chang et al., 1997; Davidson & Prkachin, 1997). Such a failure has been shown to result in decreased motivation to engage in help seeking behaviour, diminished effort exertion, and inconsistent goal attainment. Both illness specific and personality processes have been confirmed to influence perception of risk of illness. The value of this project was that the study provided evidence that these processes are relevant to perception of risk of depression and further demonstrated the relative importance of considering optimistic bias as representative of both illness specific and personality dimensions.

In addition, the present study supported the call for research to move beyond addressing ‘single factor’ models, to multifactorial models (NPHP, 2001) highlighting the value of incorporating multiple factors linked to perception of risk, into a structural model that includes consideration of state / illness specific dimensions and personality dimensions. Models such as that by Weinstein (1980) with the additional factors advocated by Moore and Rosenthal (1996) offered an approach that contained aspects of perception of risk that had previously been examined in isolation including knowledge / attitudes / beliefs, stigma and stereotyping, knowledge of a sufferer, perceived seriousness and perceived control. The addition within this study of a personality construction of optimistic bias as advocated by Chang and colleagues (1997) and Davidson and Prkachin (1997) offered greater predictive capacity than either conceptualisation independently.

### **8.1.2 Perception of risk of depression compared with perception of risk of other illnesses**

A comparative evaluation of the strength of the Weinstein (1980) and Moore and Rosenthal (1996) model of perception of risk as a series of semi-independent illness specific constructs was undertaken with respect to depression and three physical illnesses. An important finding from this study was that this model for understanding perception of risk most significantly predicted perception of risk of depression. Whilst demonstrating the highest level of statistical significance, this model accounted for a larger percentage of variance in depression than for any other illness examined. Despite extensive utilisation within the physical health literature (Davidson & Prkachin, 1997; Eiser et al., 1993; Harris & Middleton, 1994; Moore & Rosenthal, 1996; Van Der Velde et al., 1992; Weinstein, 1982, 1987) this model appeared more relevant to perception of risk of depression than to perception of risk of any of the illnesses examined by this study. The strength of this finding was unexpected and warrants further replication and expansion in future studies.

As anticipated different patterns of significance emerged for each illness. For HIV/AIDS the illness specific model was not a significant predictor for perception of risk. For Diabetes and Breast Cancer the illness specific model was found to significantly predict perception of risk of the illness. In addition to varying levels of significance, each illness revealed individual factors that were significantly predictive in their own right. Perceived control was demonstrated to be an important factor influencing perception of risk of HIV/AIDS. Perceived seriousness was found to be the most significant factor influencing perceived risk of diabetes. Finally, like

perception of risk for depression, the most important factors influencing perception of risk for breast cancer were perceived control and knowledge of the illness.

Perceived control and knowledge of the illness have already been discussed in relation to perception of risk of depression but also appear applicable to physical illness, particularly to HIV/AIDS and breast cancer. Given the relationship between increased control and decreased perceived risk discussed in relation to depression, this finding is perplexing. Perhaps it is not surprising that perception of risk of HIV/AIDS is bound with control given that generally individuals state that they can take measures to ‘control’ their risk of exposure, for example by practicing safe sex (Moore & Rosenthal, 1996). What is surprising is that perceived control was significant for breast cancer but not for diabetes. Breast cancer is not generally viewed as a ‘controllable’ illness with predisposing factors including sex and heritability (De Nooijer et al., 2001). Therefore individuals are less able to control such non-modifiable risk factors and reduce their perceived risk. The interesting question arising from this finding is how do women conceptualise perceived control in relation to their subjective risk of breast cancer? Such a question deserves rigorous investigation by future research. The other puzzling finding from this study was that perceived control was not significantly predictive of perceived risk of diabetes. This finding was unexpected, particularly in light of the fact that according to the physical health literature the community considers diabetes a ‘controllable’ illness (Haley et al., 2003). Most public health campaigns addressing diabetes target those attributes that individuals can modify to reduce their risk, including diet and exercise (AIHW, 2002). It appeared from this sample that women did not consider these ‘controllable’ factors important in their subjective risk assessments for diabetes. This finding needs

further investigate potentially with a larger sample to determine if this finding is representative of broader community attitudes and to explore the implications more thoroughly.

Interestingly this study did not find that stereotypical representations of sufferers of illness significantly predicted perception of risk of illness for any of the illnesses examined. Conversely this study did support the argument explored by Moore and Rosenthal (1996) that stereotypical representations of sufferers of illness exist. In this study a number of stereotypical sufferers were named for depression that differed from those named for other illnesses. As stated in section 3.2.4 in Chapter Three the follow-on effect of maintaining stereotypes for depression sufferers implies that individual's who believe that they do not fit the mould supported by the stereotype are less vulnerable or less inclined to accurately identify symptoms (Harris & Middleton, 1994). The development and maintenance of stereotypes further enable individuals to cognitively distance themselves from the 'typical sufferer' by identifying differences rather than similarities between themselves and the 'typical sufferer'. As previously discussed, cognitive distancing enables individual's to reduce their anxiety about vulnerability / risk of illness. Future research is needed to examine this relationship to explore the process of cognitive distancing from stereotypes of sufferers.

The finding that knowledge of a sufferer did not predict perception of risk for any of the illnesses examined was unexpected. Research has suggested that knowledge of a sufferer gives individuals experience with symptoms that may induce them to act, or at least to recognise symptoms (De Nooyer et al., 2001). Despite such research and the work of Moore and Rosenthal (1996) that indicated that knowledge of a sufferer

was an important influence on perception of risk of illness, the current study did not support this notion. Although Millstein and Halpern-Felsher (2002) reported that knowledge of a sufferer caused variation in perceived risk, the repercussions of this interaction are unknown within the present sample. However, this finding may provide additional support for the operation of an optimistic bias. That is, perhaps the women within this study were able to maintain their optimistic belief ‘that it won’t happen to me’ on the basis that they had evidence that it had happened to another.

Despite the notable finding that perception of risk for each illness was influenced by a variety of individual factors, the overall predictive validity of the Weinstein (1980) model with the additional Moore and Rosenthal (1996) factors should not be underappreciated. The finding that this model was more significantly predictive of perception of risk of depression than for perception of risk of any of the physical illnesses examined is important. The value of this project was the strength of the perception of risk model for depression, particularly as the finding provided evidence for the usefulness of modelling perception of risk of depression to understand and subsequently predict behaviour (Rickwood & Braithwaite, 1994).

It makes sense conceptually that a process of modelling factors that has been successfully undertaken in physical health literature would also be valuable in mental health. In fact, models in physical health literature have extensively undertaken the task of linking perceptions and behaviours and have demonstrated that perceptions of high personal risk will increase the likelihood of precaution adoption (Ajzen & Fishbein, 1980; Jordon & Oei, 1989; Moore & Ohtsuka, 1999; Ratliff et al., 1999). Models such as TRA and HBM have had many applications in physical health

literature including, sunbathing and sunscreen use (Hillhouse, Stair & Adler, 1996), use of oral contraceptives (Doll & Orth, 1993), breast self-examination in older women (Lierman, Young, Kasprzyk & Benoliel, 1990), exercise (Gatch & Kendzierski, 1990), participation in cancer screening programs (DeVellis, Blalock & Sandler, 1990), AIDS related behaviours (Fisher, Fisher & Rye, 1995) and smoking in adolescence (Maher & Rickwood, 1997). Models such as these are able to provide direct links between perceptions and behaviour, as well as provide an indication of people's intentions with respect to health behaviours including help seeking (Rickwood & Braithwaite, 1994). Millstein and Halpern-Felsher (2002) argued for the need to link outcomes with behaviour to enable people to make meaningful judgements about their risk. Modelling perceived risk in mental health areas allows such links to be investigated while further contributing to the understanding of the role of perceived risk in decision making about health behaviours.

The importance of understanding the similarities and differences between mental and physical illnesses cannot be underestimated. The World Health Organization (2000) argued that the relationship between physical health and mental health was under-investigated. This study provided an important insight into the comparative nature of women's conceptualisations perceived risk of illness, in this instance mental illness (Depression) and physical illness (HIV/AIDS, Diabetes and Breast Cancer). The strength in this rationale was that this study was the first to consider the predictive strength of optimistic bias as a model for perception of risk across both mental and physical illness. The present study confirmed the applicability and validity of a model of understanding perceived risk, traditionally applied to physical health research to mental health research and specifically to depression. The model known as optimistic

bias was demonstrated to be more applicable to depression than to HIV/AIDS, Diabetes or Breast Cancer. Such findings have important implications about who to target for health promotion campaigns, as well as for the management and treatment of depression. Factors such as ‘perceived control’ and ‘knowledge of the illness’ appear to have crucial parts to play and would be valuable targets for public health policy. The results from this study suggest that knowledge of the illness was not enough to guarantee engagement in health and protective behaviours, a finding that should be borne in mind by policy makers and service providers.

A limitation of this study relates to the generalisability of the findings. Given that this study was a non-clinical population study, the sample size may be considered low for the generalisability of the findings to women at large or the wider community. Further, the small sample size raises the issue the ability to make comparisons with other research in the areas of depression, perception of risk and optimistic bias. The sample size also raises the question of statistical validity. However, it is usual with small samples for differences between sample and population parameters not to be detected when they are true; the Type II error rate increases. This means that statistical relationships emerging in this study therefore can be considered to be reliable. Nonetheless, where general trends were indicated, a statistically significant relationship may have been apparent if the sample had been larger, particularly in the case of correlations that failed to achieve statistical significance. Despite these limitations, the findings from this study appear robust with strong argument for replication and expansion in areas of mental health research.

### **8.1.3 Depression as an illness**

This study revealed a number of valuable findings that contribute to the depression literature. This study examined for the first time in a structured way, how Australian women conceptualised various aspects of four illnesses. As discussed in Chapter 7, the present findings indicated that the women within this sample collectively conceptualised Depression differently from HIV/AIDS, Diabetes and Breast Cancer. On the basis of visual trend analysis four comparative profiles were developed, one for each illness. The depression profile demonstrated that women perceived themselves to be more at risk of depression than any of the other illnesses. Over half of the sample reported that depression was extremely serious, with the majority believing that they had some control over avoiding depression. Stereotypes of typical sufferers included new mothers, those who had experienced loss / stress and those with a family history of depression. Depression was considered the most commonly occurring of the four illnesses examined, with three quarters of the sample reporting knowledge of a sufferer. Perceived knowledge of the illness was high for depression, with attitudes generally negative toward depression.

This profile supported that notion that depression is a major health issue for women in Australia. Indeed, according to these results women believed that they were more at risk of depression and therefore mental illness, than they were of the physical illnesses included within the study. Surprisingly although the frequency of knowing someone with depression was high, these rates did not appear to correspond with perceived commonness. Similarly, the frequency of knowing a sufferer of depression did not appear to highly correspond with perceived knowledge about the illness.

In addition to charting comparative profiles for perception of risk across a range of illnesses, another aspect of the study was to examine if a portion of the sample were depressed according to a well-established measure of clinical depression (BDI-II). Whilst not identified as a hypothesis to be tested a surprising and worrying finding from this study was the very high number of women who reported symptoms of clinical depression. While Australian research has suggested that prevalence rates for depression are as high as 6% in any year (Andrews et al., 1999, Australian Health Ministers, 2000) the finding that over 50% of the current sample could be classified as clinically depressed is worrying. This finding appeared to support the notion that depression is a significantly under-reported illness within the Australian community (Hickie, 2002). It was not anticipated that over half of the sample would return such results given that the study specifically targeted a non-clinical population. Given the unexpected nature of this finding, the current study did not build in the capacity to explore such high levels of clinical depression more thoroughly. Had this been anticipated the study design would have included questions about whether participants knew they were depressed. Such questions would have allowed for consideration of the role of insight and its impact upon perception of risk of depression, and is an important direction for future research.

This study was able to explore the relationship between depressive status and perception of risk of depression. It was found that a moderate relationship between reported depression and perception of risk of depression subsisted within this sample. The direction of this finding indicated that as levels of reported depression increased, perceptions of being at risk of depression also increased. This finding may offer support for the work of Rothman and colleagues (1996), Stone and colleagues (2001)

and Alloy and Abramson (1988) who reported that individuals with depressive tendencies were generally accurate about their predictions for future events, whereas non-depressives tended to be unrealistically optimistic. Perhaps in this sample those who were depressed accurately perceived their risk of depression, whilst those who were not depressed were optimistically biased about their risk of depression. The present study has suggested that depressive realism as discussed by Alloy and Abramson (1988) and Stone and colleagues (2001), that is, depressed participants were more accurate in judging contingencies than were nondepressed participants, remains relevant, as it seemed to be pertinent to the finding that perception of risk was associated with depressive status.

This study examined the ability to recognise depression from a mental health literacy vignette (Jorm et al., 1997a). The findings of the present study extended previous research such as that of Jorm and colleagues (1997a) who reported that 39% of a sample of 2031 people could correctly identify depression in a vignette of a person with major depression, with a further 72% identifying a mental health problem. Indeed, in the current study 85% of women were able to recognise depression from the same vignette. This encouraging finding has important implications for prevention of depression and treatment outcomes, as research states that adequate recognition of symptoms is a vital component of help seeking behaviour (Parslow & Jorm, 2002; Sheikh & Ogden, 1999).

A further interesting finding from this study was the lack of a positive association between reported knowledge of depression and the ability to recognise depression. Jorm and colleagues (1997a) defined mental health literacy as referring to the

'knowledge and beliefs about mental disorders which aid their recognition, management or prevention'. While research from others (Goldney et al., 2001) generally supported the notion that as knowledge of an illness increased, recognition of symptoms also increased (Shao et al., 1997) that assertion was not supported by this study. In attempting to understand why knowledge of depression was not associated with recognition of depression, it may be important to question the accuracy of knowledge reported. There was no requirement to test or prove knowledge about depression, or any other illness. Perhaps as Hight et al. and colleagues reported (2002) the Australian community has little specific knowledge about depression. It would actually appear that reporting knowledge of depression does not equate with the ability to recognise symptoms, in oneself or in others. Therefore there is little way of knowing what the women within this sample 'know' when they claimed to have knowledge about depression or whether their knowledge was objective or subjective. The current findings perhaps suggest that perception of risk is not inevitably and uniformly influenced by accepted and objective knowledge, as contextual and experiential factors seem to be able to mediate perceived risk to such an extent that the effects of knowledge are reduced.

Interestingly this study did not find a relationship between a woman's reported level of depression and her ability to recognise depression from a mental health literacy vignette. Whilst it may be reasonable to suggest that experiencing symptoms in oneself would facilitate the recognition of symptoms in others no such relationship was found. A number of explanations for this finding exist. Firstly, as previously stated this study did not explore each woman's awareness of her depressive status. Therefore it may be premature to conclude that reported depression equated to

symptom awareness in self or others. Secondly, there was the potential for self-protective denial to be operating within the sample. Research such as that by Kirscht and colleagues (1966), Weinstein and Lachendro (1982), Van Der Velde and colleagues (1992) and Weinstein (1980) argued that defensiveness and denial were common anxiety reduction mechanisms. This finding implied that the women in this study were potentially failing to recognise the distressing and unpleasant symptoms of depression in themselves (Snyder & Ingram, 1983), which may have accounted for the lack of a relationship between reported depression and recognition of depression.

This study revealed an unexpected finding that among those women who reported levels of depression above the normal range, there were participants who were able to recognise depression and participants who could not. This finding implied that experiencing the symptoms of depression was not enough to ensure adequate recognition of ‘typical’ symptoms. Given this unexpected finding a more detailed comparative visual trend analysis was conducted to examine similarities and differences in conceptualisation of depression between those who were depressed and able to recognise depression (DR); those who were depressed and unable to recognise depression (DNR); those who were not depressed and were able to recognise depression (NDR) and finally those who were not depressed and were unable to recognise depression (NDNR). Further inferential analyses could not be undertaken because of the small numbers in both of the ‘not recognised’ categories.

Perhaps it is not surprising that the NDNR group were the group least likely to perceive themselves at risk of depression. Whether this finding was indicative of a link between actual risk and perceived risk is unclear and further research in this area

is necessary. Further exploration of subgroups revealed that the group who considered depression most serious was the DR group. The group who less frequently reported depression as extremely serious was the NDNR group. This finding offered support for the concept described by McNair and colleagues (2002) that ‘only sufferers (of depression) know just how difficult it is’. Similarly Wolpert’s (1999) account of depression stated that the experience of misery and suffering that accompanied depression was impossible to explain but keenly felt by any sufferer. Indeed it appeared that ‘sufferers’ in this study were the group who appreciated most the severity of the illness.

With respect to perceived commonness within these subgroups, an interesting finding emerged. While all groups reported that depression was a common illness it appeared that perception of commonness was neither a function of depressive status, nor a function of the ability to recognise common symptoms of depression. With respect to knowledge of a sufferer, all groups reported personal knowing a sufferer of depression. Interestingly nearly 30% of the NDNR group reported that they did not know a sufferer of depression, perhaps because they were unable to recognise, or failed to acknowledge the symptoms of depression in those they knew.

When considering perceived control in the context of depressed / not depressed and recognised / not recognised subgroups, two interesting findings emerged. First, it appeared that the NDR group were the group who perceived themselves to have the most control over avoiding depression. Secondly, those who were in the NDNR group perceived themselves to have the least amount of control over avoiding depression. Riechard and Peterson (1998) argued that perceptions of risk were lower if individuals

believed they had control over the illness. Interestingly in this study perceived risk of depression was lowest for the NDNR group, despite the fact that this group considered themselves to have the least control over avoiding depression, a result that failed to correspond with Riechard and Peterson (1998). From this finding it appeared that sense of control was a function of ability to recognise depression rather than depressive status. Snyder and Ingram (1983) argued that according to Attribution theory high-consensus information yields the inference that the situation rather than the individual is the causal agent. Given an inability to recognise depression, the information was not high-consensus. Therefore within the NDNR group, potentially the individual was perceived as responsible for depression. To avoid such responsibility and subsequent anxiety about vulnerability this group may consider that they have little control over avoiding the illness, thereby reducing their anxiety. This trend warrants expansion and further testing in future research.

All of the subgroups in this study were able to name stereotypical sufferers of depression. An interesting trend was that both of the depressed groups (DR & DNR) more frequently named stereotypical sufferers of depression. Although not directly assessed, one potential explanation for this trend suggests that those who sufferer from depression themselves were more aware of stereotypical representations of sufferers than those who did not suffer from depression. Stigma may have an important contributing and/or interacting effect in this instance. That is, those who have been ‘branded’ themselves were more acutely aware of the impact of stigma in formulating and maintaining stereotypes (Sim, 1993).

Not surprisingly the NDNR group reported knowing nothing about the illness in 14% of cases. What was unexpected was that the DNR group reported unanimously knowing something about the illness, despite not being able to recognise common symptoms. Understanding those who claim to have knowledge but are unable to recognise the symptoms of depression is perplexing. It appeared that a difference between ‘objective’ and ‘subjective’ knowledge was found in this study. Millstein and Halpern-Felsher (2002) and Eiser and colleagues (1993) argued that subjective knowledge was rarely based on objective facts, rather subject to informal decision rules. An additional trend that emerged from the present study was the tendency for the DR group to report the most negative attitudes towards depression. The NDNR group had the least negative attitudes towards illness, followed by the DNR group. The question emerged; does attitude reflect a component of personal experience of stigma and stereotyping? Wolpert (1999) argued that the stigma of depression and the sense of shame that accompanied it were reflected in the maintenance of stereotypes and negative attitudes. Perhaps as described by Angermeyer and Matschinger (1996b) within the present study those who were depressed were more acutely aware of the negativity associated with the experience, therefore their own experience was of feeling embarrassed, guilty, and worried and so forth as examined in this study.

A number of limitations exist in relation to this project. Although the sample size has already been discussed, the characteristics of the sample appear to potentially limit the interpretation of the findings. Potential biases in sampling, and a potential over-representation of tertiary educated women interested in health in the sample need to be considered. The method of data collection, snowball and convenience sampling was likely to result in selection bias.

The implication of an over-representative of tertiary educated women raises a number of interesting questions. Research has consistently demonstrated that those at particular risk of depression are uneducated women with fewer psychological resources (Astbury, 1996; Astbury et al., 1994; Brown, 1998, 2002; Brown & Harris, 1978, 1989; Brown et al., 1996). In the current sample rates of clinical depression were high as were levels of tertiary education. Two explanations emerge to account for the occurrence of high levels of depression within the current sample. Firstly, the present study calls for further questioning of the theoretical assertions that understanding the well-known risk factors for depression including poor education as described by Brown (1998, 2002), Brown and Harris (1978, 1989), Brown and colleagues (1996), Astbury (1996) and Astbury and colleagues (1994) translates for women and how they perceive their own risk for depression. This phenomenon raises questions about the psychological resources of the women in the current sample. Research has suggested that those with higher levels of education also possess a greater capacity for self-reflection, a greater interest in health matters, and more positive attitudes toward help seeking (Brown, 2002; Parslow & Jorm, 2000). Secondly, although depression is generally regarded as underreported within the community, perhaps depression within this group is especially under-represented.

A further limitation of this study has been encountered in other perception of risk research. Rarely in perception of risk research is there any standard against which to judge the accuracy of individual's perceptions. For example, although data for the population may be available, there is generally no way of knowing in advance whether a specific person would become depressed in their life. In the absence of individual outcome data, people have considerable leeway in their predictions of risk,

allowing them to be quite optimistic without fear of being shown incorrect (Taylor & Sheppard, 1998). Taylor and Sheppard (1998) argued that when individual outcome data are available and anticipated in the near future, people no longer had the freedom to think what they want about the future; they no longer had the luxury of being optimistic. Instead they faced the possibility that their optimistic outlook maybe disconfirmed. The prospect of disconfirmation can lead to greater accuracy in personal prediction, perhaps because of accountability concerns (Taylor & Sheppard, 1998). This methodological consideration should be incorporated into future longitudinal research designs.

A strength of the study, in terms of rationale and methodology was the use of a non-clinical population. While much research in the area of perception of risk, and specifically in the area of optimistic bias has been criticised for it's over reliance on college/university samples, this study contributes to the literature by avoiding the over-reliance on college student samples and concentrating on a community sample as advocated by the Australian Institute of Health and Welfare (1998), and the National Public Health Partnership (2001) (Hight et al., 2002; Weinstein, 1987).

## **8.2 Further implications of the present study**

### **8.2.1 Implications for practice and public policy**

Tackling the problem of depression in women is much more than simply treating depressed women. When up to 50% of people with depression do not seek help from the health services it becomes apparent that a great number of people are not accessing services. This raises serious questions for policy makers and health care providers alike. One such question concerns the public, policy makers and health care professionals ability to recognise depression and their level of understanding about the complexities of the illness. An important link facilitating help seeking and the appropriate response from professionals is the linking of knowledge of symptoms, recognition of one's own risk and the experience of depression. Research utilising health behaviour models including the Theory of Reasoned Action and the Health Belief Model emphasise this important link and have found that perceptions of high personal risk increase the likelihood of precaution adoption, such as help seeking (Ajzen & Fishbein, 1980; Ratliff et al., 1999; Moore & Ohtsuka, 1999; Jordan & Oei, 1989).

Public health forums such as the National Public Health Partnership (1998), the WHO (2000, 2002, 2004) and the Australian Institute of Health and Welfare (2004) continue to argue that action must be taken to prevent depression before it occurs, to assist women to recognise symptoms of depression early when they do occur, to encourage appropriate help seeking, to reduce the stigma and discrimination that women experience and to ensure that the help they receive is effective and based on current research and understanding. This action may take the form of efforts to raise the

community's understanding and knowledge of mental health problems, particularly depression. The aim of such action would be not only to change attitudes to depression but also people's actual behaviour in daily life (Australian Health Ministers, 1998, 2000). Awareness of how risk is conceptualised and of deep-rooted belief systems is important both in dealing with the expectations of individuals and in the design of health promotion campaigns designed to improve mental health literacy.

A contribution to early detection of depression may be expected when public health education focuses on improving knowledge, recognition and interpretation of symptoms, decreasing feelings of unrealistic fear, helping individuals to cope with realistic fear, and convincing individuals of the relevance of consulting a doctor (De Nooyer et al., 2001). An important component of fear reduction involves acknowledging the risk to ego that depression represents, as well as the ego-threat potential of help seeking. If individual's are to be facilitated in bringing their symptoms to the doctor at a time when intervention can still be of benefit, then such educational interventions should focus not only on knowledge but also on the range of existing beliefs, including perceptions of risk and optimistic bias and emotional responses held by each individual (Sheikh & Ogden, 1999). The pivotal role of general practitioners in treating depression is that depressed persons often go to them for assistance before they go to mental health specialists. However, few doctors are likely to be able to recognise depression, let alone explore the circumstances and factors influencing its occurrence in a consultation lasting 10-12 minutes. Therefore they too form an important link in the health promotion campaign for depression.

The current research provides valuable evidence about the important yet complex roles of knowledge and sense of control in the conceptualisation of subjective perception of risk. Further this research has demonstrated that beliefs about physical illness are not necessarily the same as beliefs about mental illness. Significantly, women perceived themselves to be at greater risk for depression than for physical illness. It appeared that personal experience of depression (depressive status) and the ability to recognise depression interacted in unexpected ways. This research indicated that when developing health promotion campaigns consideration needs to be given to establishing a ‘specific depression package’ rather than a generic health campaign. It seems important to acknowledge differences between sufferers and stereotypes rather than explicitly enforcing similarities. This is particularly relevant given that both this study and past research has found that individuals distance themselves from ‘typical sufferers’ to reduce their anxiety about risk / vulnerability. Acknowledging this tendency may prove a valuable asset for increasing recognition of symptoms and engagement in help seeking behaviour. Research has argued that it is important to find ways of motivating people with psychological problems to seek the help of mental health professionals who are specifically trained and experienced to handle such problems (Lyu, 1999; Snyder & Ingram, 1983). The impact of stigma and the maintenance of stereotypical images of sufferers inhibit motivation to seek help. One consequence of differentiating oneself from a stereotypical sufferer is the potential to inaccurately perceive one’s own level of risk. Furthermore there may be an extremely fine line between promoting a sense of similarity with specific yet vague others and creating a sense of difference. Even when similarity with the self has been successfully established, differences are still reported on some important aspects of behaviour. The danger is that national and other generalised health promotion

campaigns are likely to offer the opportunity to almost everyone to find grounds for distancing themselves from any model employed in such campaigns and may well end up reinforcing a sense of comparative invulnerability, rather than undermining it (Harris & Middleton, 1994).

It could be suggested that the public perception of treatment for mental disorders as long term, costly and unlikely to be effective, still influences funding agencies and health providers, and to some extent this maybe true. Unfortunately, the different experiences of consumers and carers indicate that interactions with different levels of the healthcare system reinforce the belief that depression is not a major concern of healthcare providers (Hickie, 2002). Although equitable provision of health care in all regions, metropolitan, rural and remote, is a difficult task for governments in Australia and various other countries (Parslow & Jorm, 2000), the lack of leadership by both primary care and specialist doctors in promoting destigmatisation is clear to people with depression that use the healthcare system. The promotion of the direct voice of consumers and carers by projects such as Beyond Blue, is critical to the process of destigmatisation, ongoing medical education and improving knowledge of the illness and the recognition of symptoms (Hickie, 2002).

The current health burden of depression and the projected future impact on society prompted the Federal and Victorian governments to develop Beyond Blue, the national depression initiative. This project was designed to increase community awareness of key aspects of depression such as characteristic symptoms, risk factors, pathways to care, preventive and effective treatment strategies. In addition, the Beyond Blue project was aimed to promote the destigmatisation of people with

depression and related disorders, confront barriers that discourage full social participation and finally to advocate for improved primary-care-based mental health services. The project was interested in improving specialist support for the primary care sector. Knowledge of how women form risk perceptions should help us construct interventions that will reduce risk perception biases and increases social participation. Even when personal risk estimates are close to population statistics, it does not necessarily mean that health promotion campaigns have no need to talk about risk. Relative risk estimates may still be optimistically biased and may be just as influential as absolute risk estimates (Rothman et al., 1996). This project offers support for future research in the area of perception of risk of depression and offers further evidence for the powerful model of optimistic bias.

McGrath (2002) commented on the government's history of shrugging responsibility by dismissing input and denying the participation of consumers and carers in healthcare systems. He went on to suggest that consumers and carers are entitled to access to equitable and quality healthcare services which offer choice and participation in selecting the most appropriate treatment options in the most empowering settings. The provision of effective and empowering healthcare services requires healthcare professionals to foster an understanding of effective treatment options and treatment guidelines, be aware of how depression is perceived and experienced by the individual and the community, and ensure participation of, and provision of information to, people who experience depression and their carers. As a result of the National Mental Health Strategy (1993-2003) issues such as increased access, commitment to equity, improved quality of services, promotion of choice and active participation by consumers and carers in national and local planning and

decision making have been increasingly recognised (McGrath, 2002). This strategy sought to extend their roles in the planning, delivery and evaluation of mental health services and to reduce the stigma associated with mental disorders including depression. Mental health providers have become familiar with the benefits to be gained by promoting such roles and incorporating consumer and carer perspectives into ongoing medical education and publications (McNair et al., 2002). While this project was not a consumer participation study, the high prevalence of depression within the sample and the finding that many participants had knowledge of a sufferer suggests that the results are directly applicable to consumers and carers.

### **8.2.2 Implications for future research**

Firstly, the present study has confirmed the value of multifactorial research in this area, providing initial findings in linking perception of risk of depression and optimistic bias. It has emphasised the importance of examining the complex influences around perception of risk of depression, where a range of factors, contexts and processes are examined. Future research will need to adopt a more prospective and longitudinal approach in order to consider the continuities and discontinuities of depressive status, and the changes that occur across the lifespan. In particular, the qualitative experiences of women need to be investigated, so that perception of risk can be understood in more depth. In particular, the subjective influences of optimistic bias and the relationship between depressive status, perception of risk and optimistic bias. In addition, measures of depressive status and psychological functioning from external sources, such as family members, examined in relation to contextual factors,

may provide greater understanding of the influences on women's perception of risk for depression.

Secondly, the role of perceived control in perception of risk for depression that was explored in this study needs to be better understood in terms of help seeking and treatment outcome. In particular, women need to be consulted about the role of perceived control at each level. That is, prior to, during and post treatment to determine the nuances of perceived control and the implications for perceived risk of depression. Further, the role of knowledge needs to be examined at greater lengths and in more detail, as well as what women believe they 'know' about depression, and how that knowledge is applied to their own experiences. In order to further understand the interesting finding that knowledge predicts perception of risk, yet knowledge was not shown to be associated with depression or recognition, such an investigation could consider the interaction with recognition of symptoms in the self and in others.

Thirdly, research needs to explore the complex interaction between maintaining stereotypical representations of sufferers of depression and perception of risk for depression. The confounding role of stigma need also be factored into such an exploration. This research could examine the tendency to distance oneself from the typical sufferer thereby underestimating one's own level of risk.

Finally, although the importance of linking physical and mental health as identified by the WHO (2000) was not explicitly considered by this study future research should consider the implications arising from the profile of depression and the comparative analysis with three physical illnesses. This structured exploration of women's

conceptualisations of depression allows for future comparative analyses between depression and other illnesses, both physical and mental. This structure could be applied to larger numbers, to a variety of samples and readily replicated in future studies. Further research needs to address sampling issues experienced in the present study. While this project addressed the over-reliance on university samples, a more random and representative sample would resolve concerns about a possible bias in sample selection. Such research could be extended to include a greater number of women who were not tertiary educated and attempt to capture those women who are traditionally reluctant to engage in research.

### **8.3 Conclusion**

Substantive work has explored the factors that place an individual ‘at risk’ of illness (Brown et al., 1995; Brown et al., 1996; WHO, 2000). Within the context of mental illness and specifically depression, the World Health Organization characterised these risk factors as a complex interplay of social, psychological and biological factors (WHO, 2004).

A powerful link has been substantiated between risk perception and subsequent health practices, such as help seeking behaviour, suggesting that perceptions of high personal risk increase the likelihood of precaution adoption (Ajzen & Fishbein, 1980; Ratliff, Donald & Dalton, 1999; Moore & Ohtsuka, 1999; Jordan & Oei, 1989). Across the domains of physical illness, research has defined a range of factors that influence subjective perception of risk and highlighted important implications for health practices and treatment outcomes. Further, this research has identified that one of the most powerful determinants of whether an individual actually practices

particular health behaviours are perceived barriers to the practice of the health behaviour and the perceived risk/susceptibility of a particular illness (McNair, Hight, Hickie & Davenport, 2002). Factors such as stigma, and knowledge and attitudes about the illness have been identified within the literature as impacting on subjective perception of risk. While these assertions are currently defined and modelled within the physical illness literature, in the area of mental illness and depression the factors associated with understanding risk perception remain ill defined and fragmented.

Within the physical illness literature one dominant explanatory model for understanding subjective perception of risk is the work of Weinstein (1980) who identified a series of semi-independent illness specific constructs. These constructs include; (a) perceived seriousness of the illnesses, (b) perceived commonness of the illness, (c) knowledge of a sufferer, (d) perceived control, and (e) stereotypical representations of sufferers. This cohesive model of risk perception became collectively defined as optimistic bias. Moore and Rosenthal (1996) explored perception of risk of illness and introduced two additional constructs to the model; (f) knowledge of the illness and (g) attitude toward the illness. In contrast to this illness specific model of optimistic bias, subsequent research has explored the dimensionality of the concept of optimistic bias suggesting that the model also captures stable personality dimensions (Chang, Maydeu-Olivares & D'Zurilla, 1997).

No literature base currently exists to understand perception of risk of depression in a cohesive, formal model. The current thesis addressed this conceptual gap by testing the predictive strength of the Weinstein model (incorporating the Moore and Rosenthal factors) of optimistic bias for understanding subjective perception of risk

for depression. This project found that the Weinstein (1980) model of optimistic bias with the additional Moore and Rosenthal (1996) factors was a powerful model for predicting perception of risk of depression. Further this research revealed that the personality conceptualisation of optimistic bias as advocated by Chang and associations (1997) was also, albeit less significantly predictive of perception of risk of depression. This study suggested that the relationship between optimistic bias and perception of risk was significant.

This thesis further offered a comparative analysis of the model of optimistic bias with respect to depression and a range of physical illnesses (HIV/AIDS, Diabetes and Breast Cancer). It found that the women who participated in this study perceived themselves to be more at risk of depression than any of the physical illnesses examined. This study indicated that the concept of optimistic bias traditionally applied to physical health issues was not only relevant to the study of mental health issues and depression, but that it accounted for more variation in perception of risk for depression than any other illness studied. Perceived control and knowledge of the illness were significant factors influencing perception of risk of depression. This project demonstrated the value of modelling perception of risk of depression and warrants expansion and replication in future research.

While this study revealed the worrying finding that over half of the sample reported levels of depression above the normal range there appeared to be a complex interplay between depressive status and ability to recognise symptoms. The study indicated that conceptualisations of depression and the ability to recognise the symptoms of

depression were not always interdependent, but important influences for perception of risk.

This work incorporated a non-clinical population of women in line with the World Health Organization's (2001, 2004) identification of depression as a significant health problem for women, and the Australian Institute of Health and Welfare's (1998) recommendation that public health research utilise community samples. A number of important implications arose from this research. Firstly, consideration of the role of personality and illness specific factors provides clues about the areas to target for education and health promotion campaigns. Secondly, this research indicated the importance of understanding the factors that influence motivation to seek help for depression including perceived control and knowledge of the illness, to better facilitate help seeking, treatment outcomes and health promotion. Next this research identified key factors that influence perception of risk of depression by examining the similarities and differences between mental and physical health domains from the explanatory perspective of optimistic bias. Finally this project advocated for contemplation of the influence of personal experience and self-evaluation on factors linked to perception of risk, in particular, knowledge of the illness, stereotypical representations of sufferers and the ability to recognise symptoms of depression. Indeed, this study has attested to the power and value of the model of optimistic bias for exploring perception of risk of depression for women.

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**ATTACHMENT 1**

**Victoria University**  
**Department of Psychology**

**AN INVITATION TO HELP WITH A RESEARCH PROJECT**

You are invited to take part in a project interested in the way women think about future life events; the way women understand particular illnesses; the way women recognise symptoms of illnesses; and finally the way women think of their own experiences. For this project, I wish to recruit women aged over 18 years, who I feel have a unique experience that warrants further understanding.

The questionnaire will take about 20-30 minutes to fill out. If there are any questions you do not wish to answer that is fine just leave it out and move on. You are not required to provide your name on the questionnaire so all information you provide will be completely confidential.

If you are interested in seeking more information about any of these illnesses, the following contacts are available.

Diabetes Australia – 9654 8777  
Anti Cancer Council - 9297 1111  
AIDSLINE - 9347 6099  
LIFELINE - 131 114  
SANE AUSTRALIA - 9682 5933

Alternatively if you want to discuss any aspect of this study or your responses to it, you may contact me via my supervisor Dr Bernadette Hood on 9365 2334, who is a registered psychologist.

This will hopefully be an interesting experience for you. Of course should this experience become upsetting in any way, your participation may cease and we could discuss ways of dealing with the issues that are upsetting. Your participation in this study is voluntary and you may withdraw from participating at any time, without any consequences for you

Thank you for your time – collecting information such as this supports the positive development of health services for women.

The project is for studies in Psychology at Victoria University, St Albans.

## ATTACHMENT 2

## **Victoria University of Technology**

# Consent Form for Participants Involved in Research

## **INFORMATION TO PARTICIPANTS:**

We would like to invite you to be a part of a study relating to an examination of psychological factors affecting health. More specifically, the way women think about future life events; the way women understand particular illnesses; the way women recognise symptoms of illnesses; and finally the way women think of their own experiences.

## CERTIFICATION BY PARTICIPANT

I,

of

I certify that I am at least 17 years old\* and that I am voluntarily giving my consent to participate in the study entitled: An exploration of the influence of optimistic bias on women's perception of their risk of experiencing depression, being conducted at Victoria University of Technology by Rebecca Riseley.

I certify that the objectives of the study, together with any risks to me associated with the measures to be administered in the study, have been fully explained to me by Rebecca Riseley, and that I freely consent to participation involving the use of these measures.

### **Measures:**

- 1) The Life Events Questionnaire
  - 2) Perception of illness risk
  - 3) Health Literacy Vignettes
  - 4) The Beck Depression Inventory

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed: ..... } Date: .....

Any queries about your participation in this project may be directed to the researcher (Name: Dr.Bernadette Hood ph. 9365 2334 ). If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University of Technology, PO Box 14428 MCMC, Melbourne, 8001 (telephone no: 03-9688 4710).

[\*please note:

where the subject/s is aged under 18, separate parental consent is required; where the subject is unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

**Victoria University of Technology  
Human Research Ethics Committee 2002**

**Application for Approval of Project Involving Human  
Subjects in Victoria University of Technology**

**Introduction:** This form is available on disk from the Department of Psychology (Footscray and St Albans Campus), and in the Department's Postgraduate Student Computer Lab). If you have any queries concerning your application you can contact Anthy Kapsalakis on (03) 9365 2405.

Notes to assist in completing the application are appended to the form. Further information relevant to research in psychology is available on a separate file labelled "Ethattach.doc"

This application form is included in the Human Research Register. If your project includes any information of a commercial or patentable nature, this information should be sent separately and marked confidential.

If an institution other than Victoria University of Technology is to be involved in the project, please provide with this application, evidence of ethics approval from the other institution.

If insufficient space is available on the form for your answer, please attach an additional page/s.

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**Applications to be typewritten and all questions answered. Three copies should be submitted by the Principal Investigator to:**

The Secretary  
Ethics Committee  
Department of Psychology  
St. Albans Campus

I attach a proposal for a project involving human subjects for the purposes specified on the attached sheets.

**Data collection** for this project is planned to commence on 23 / 07 / 02 and to conclude on 30 / 10 / 02 (insert day/month/year).

Note: The Human Research Ethics Committee normally grants approval for periods of up to two years, subject to annual review. Consideration will be given to granting approval for a longer period in certain circumstances. Applications for extension of approval should be lodged prior to expiry of existing approval.

**PROJECT TITLE:**

An exploration of the influence of optimistic bias on women's perception of risk of experiencing depression.

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**PRINCIPAL INVESTIGATOR/S: Bernadette Hood**

(Projects to be undertaken by students should list the Supervisor as the Principal Investigator)

**STUDENT INVESTIGATOR/S: Rebecca Riseley**

**COURSE: Master of Clinical Psychology**

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**DEPARTMENT/S: AND CAMPUS**

Department of Psychology, St Albans Campus

**Intrusiveness of Project:**

- |   |                              |
|---|------------------------------|
| 1. Uses physically intrusive techniques   | No <input type="checkbox"/>  |
| 2. Causes discomfiture in participants beyond normal<br>..... levels of inconvenience | No <input type="checkbox"/>  |
| 3. Examines potentially sensitive or contentious areas                                | Yes <input type="checkbox"/> |
| 4. Uses therapeutic techniques  | No <input type="checkbox"/>  |
| 5. Seeks disclosure of information which may be<br>prejudicial to participants        | No <input type="checkbox"/>  |

**1. Title of Project**

An exploration of the influence of optimistic bias on women's perception of risk of experiencing depression.

**2. Principal Investigator/s:**

(Projects to be undertaken by students should list the Supervisor as the Principal Investigator)  
Bernadette Hood

**3. Department/s:**

Department of Psychology

**4 (a) Associate Investigator/s and/or Co-Investigator/s:**

**(b) Student/s:**

Rebecca Riseley

**5. Type of Project:**

(please answer Yes or No to the following questions)

- (a) Is application for a higher degree program? Yes
- (b) Is application for a pilot program of a higher degree? No
- [If yes, please note that a second application will be required for the full program]
- (c) Is application for an honours program of an undergraduate degree? No

If yes, please indicate semester dates: \_\_\_\_\_

- (d) Is application for a funded research program? No

If yes, please indicate source of funding: \_\_\_\_\_

Do you require ethical approval prior to funding being granted? No

If yes, attach any necessary form to be completed by the Ethics Committee  
and indicate grant closing date.

Date: \_\_\_\_\_

**6. Aim of project:**

The aim of the project is to explore whether a model of optimistic bias traditionally applied to physical health issues is also applicable to mental health issues, specifically depression. Essentially this research will attempt to chart the risk perception of a group of women with respect to four illnesses, one of them a mental illness, in order to determine if there is evidence to support the notion that the perceived risk of becoming depressed is influenced by an optimistic bias.

7. Plain language statement of project:

*(It is recognised that in some areas of research, it may be appropriate that this statement is repeated elsewhere in this application form, and that it may comprise part of your response to questions 6, 8, 15, 16 and 17.) This section is to be stated in simple language and any terms or jargon must be accompanied by explanation.*

Optimistic bias has been identified as the tendency to expect that negative events are more likely to occur to others than to oneself, and conversely that positive events are more likely to occur to oneself, than to others. Optimistic bias has been studied in relation to physical health over the last two decades. This research has attempted to investigate people's bias in relation to particular physical illnesses such as HIV Aids, skin cancer, smoking related cancers and their risk of experiencing sexually transmitted diseases. The aim of much of this research has been to investigate the interacting impact of optimistic bias on health promoting behaviour and knowledge changes. Research has found that when examining optimistic bias in relation to future life events a number of important considerations exist. Degree of desirability, perceived probability, association with a stereotypic victim, perceived vulnerability and degree of controllability all influence the degree of optimistic bias exhibited by a person. In addition, the population incidence, severity of the event and knowledge about the event were all related to a person's prediction about future life events. Perception of risk research has produced some interesting findings that have direct implications for this project. It has been suggested that perceptions of risk or vulnerability were related directly to preventative health behaviour. From this one could argue that people were unrealistically optimistic, they would tend to feel less vulnerable and hence, less likely to change their behaviour to avoid risks.

Research into perception of risk of experiencing depression is limited. One of the aims of this study is to examine women's understanding of depression, their perception of risk in contracting the illness and whether they hold any stereotypic views of the 'type' of individual likely to experience this mental illness. These views and risk factors will then be compared to perceptions relevant to a range of physical illnesses. The primary aim of this research will be to explore whether a model of optimistic bias traditionally applied to physical health issues is also applicable to mental health issues, specifically depression. This research will attempt to chart the risk perception of a group of women with respect to four illnesses, one of them a mental illness, in order to determine if there is evidence to support the notion that the perceived risk of becoming depressed is influenced by an optimistic bias. There has been limited research into these questions yet they seem to be significant issues in addressing the public health issue of supporting women to monitor their own mental health and feel comfortable in seeking help in the early stages of illness. This study will make a valuable contribution to the understanding of women's perceptions of their risk of depression, and improve our ability to develop effective strategies for health promotion, and potentially reveal techniques for increasing awareness of warning signs and thereby potentially preventing the onset of depression. This study will have direct implications for the help seeking behaviours of women, and will facilitate an understanding of the relationship between self-evaluation and help seeking behaviour.

8. Nature of research, including methodology and a list of all procedures to be used on human subjects, with a description of those techniques which are considered by the profession to be established and accepted. Please give details of support for their application:

*(If, in the course of your research, procedures are significantly varied from those stated here, the Human Research Ethics Committee must be informed.)*

This study aims to examine the beliefs of 70 women aged over 18 years to assess, the level of optimistic bias about future life events, the perception of risk in relation to depressive illness, the level of recognition about depressive symptoms and the level of depression within the current sample. Participants will be asked to respond to a series of questions relating to an examination of psychological factors affecting health. The following assessment instruments will comprise the questionnaire.

- 1) The Life Events Questionnaire developed by Shrauger, Mariano and Walter (1998), which represents a broad range of areas such as interpersonal relations, psychological functioning, academics, finances, recreation and health. Participants are required to rate the likelihood that such events will happen over a two-week period.
- 2) Perception of illness risk, adapted from the work of Moore and Rosenthal (1996). Subjects in the current study are asked to complete identical questionnaires for four illnesses – HIV AIDS/DIABETES/DEPRESSION/BREAST CANCER. The information provided to participants does not specify that depression is the primary target illness but request information on attitudes to all 4-illness groups.
- 3) Health Literacy Vignettes, developed by Jorm, Korten, Jacomb, Christensen, Rodgers and Pollitt (1997). These vignettes describe two mental health scenarios, major depression and schizophrenia, and asks participants to identify what is wrong and how could you help the people in the scenarios.
- 4) The Beck Depression Inventory, developed by Beck, Ward, Mendelson, Mock and Erbaugh (1961). This 21 item self report instrument requires participants to rate the extent to which they have experienced specific depressive symptoms across a 4-point Likert scale over the last week.

To ensure a diverse sample of participants, subjects will be derived by a combined process of snowball and convenience sampling from contacts of the project applicant. There are no specific inclusion criteria in the sampling process as diverse opinions are sought. An information sheet will be provided to all participants (see Attachment 1) and the opportunity provided for all participants to have their questions answered. As the questionnaire will be administered to subjects it is necessary to get participants to sign a consent form in order to participate in this project. The questionnaire will take between 15 and 30 minutes to complete, and will be conducted within a confidential setting at the convenience of the participant.

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9. Date of commencement of project:

July 23<sup>rd</sup>, 2002

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10. Expected duration of project:

It is anticipated that the data collection component of this investigation should be completed within a six-month time frame. However a two year ethics approval is requested to take into account the anticipated Doctoral upgrade of the project.

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11. Number, type and age range of subjects:

Seventy women aged above 18yrs will be recruited to complete the questionnaires. As a diverse sample of women is required there will be no particular exclusion criteria for completing the questionnaire. However, the participants who demonstrate depressive symptomology

(as discovered by the Beck Depression Inventory) will be analysed separately from the sample of non-depressed subjects.

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12. Source of subjects, and means by which subjects are to be recruited:

Subjects will be recruited external to the university via a snowball and convenience sampling techniques through associates of the project investigator. The applicant believes that these techniques are appropriate. While it is acknowledged that the questionnaire material may reveal sensitive and personal information about the individual, the administration of the questionnaire material will allay some of these concerns. Subjects will also be informed that their participation is voluntary and that they may withdraw participation at any time, without consequences to themselves.

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13. Is there any payment of subjects proposed:

If yes, how much?

No

Any further comments:

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14. Premises on which project is to be conducted:

*If using an institution/s other than Victoria University of Technology, attach a copy of documents giving approval to use subjects or premises in the relevant institution/s.*

No other institution will be involved in the collection of this data. Subjects will fill out the questionnaires at a time and in a location convenient to them.

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15. Dealing with potential risks:

(a) Indicate any **physical risks** connected with the proposed procedures

None

(b) Indicate any **psychological risks** connected with the proposed procedures

The psychological risk acknowledges that asking women to complete a series of questionnaires about their beliefs about depression and other illnesses could potentially be upsetting. While depression is not acknowledged as the primary target of this investigation, and

participants will only be asked about psychological factors affecting health in general, it is necessary to recognise that by addressing issues such as HIV Aids and depression there is the potential to raise upsetting feelings in participants. It is not likely that this will occur and it is anticipated that by explaining the general nature of the project in the invitation to participate, the women will be able to make an informed decision about their desire to participate, and hence feel comfortable about answering questions prior to agreeing to participate. This measure will hopefully ensure that anyone who would find the experience upsetting would choose not to participate. As a final attempt to minimise psychological risk, each participant will be informed of their right to withdraw at any time without consequence to themselves.

(c) *Indicate any social risks connected with the proposed procedures*

The social risk involved in this project acknowledges that there is the potential for social discomfort resulting from participation in this project. The sensitivity of the research is an important factor associated with minimising this discomfort. Further, if while subjects are completing the questionnaire questions are raised about their own experience of illness, the information sheet (Attachment 1) provided to participants includes contact information numbers for the four illness groups, and the contact number for the principal investigator Dr. Bernadette Hood if participants wish to have direct contact with a registered psychologist.

(d) *Indicate any legal risks connected with the proposed procedures*

None

(e) *Indicate if there are any other risks connected with the proposed procedures*

There are no other perceived risks associated with this project.

(f) *Management of potential risks - indicate how each of these potential risks will be minimised and/or managed if they occur.*

(i) *how risks are to be minimised:*

In order to minimise psychological risks the questionnaires will by addressing a variety of health issues, and responses will take a variety of forms. For example some will be Likert ratings and other short answers. Most responses do not ask for personal accounts of experiences of depression. It is also anticipated that by providing a description of the areas to be addressed in the 'invitation to participate', potential participants will be able to decide if they would like to discuss these areas prior to agreeing to participate. Therefore it is expected that anyone who would find participation upsetting would choose not to participate. Finally each participant will be informed of her right to withdraw at any time without any consequences to herself. If subjects did require further information or the opportunity to discuss their experience of illness more fully then, as indicated above, the information sheet includes contact numbers for support organisations associated with the four illness groups and the contact number for the chief investigator who is a registered psychologist.

(ii) *how adverse events would be managed if they were to occur:*

The management of any adverse event would include the immediate cessation of participation, and a discussion about the nature of the distress will be conducted. An offer will be made to the women to provide support to them should they wish to make contact with any of the support services related to the investigated illnesses. The participant will also be made aware that the researcher is not acting in the capacity of a counsellor or psychologist and therefore that all future assistance should be sought from a qualified professional. The skill of the principal investigator as a registered psychologist would allow for appropriate management and referral of participants if any issues were to emerge in the process of completing the questionnaires.

- (g) *If you consider there to be no potential risks, explain fully why no potential risks have been identified.*

16. If you consider the subjects to be 'at risk', give your assessment of how the potential benefits to the subjects or contributions to the general body of knowledge would outweigh the risks.

I believe the risks to participants in this study are minimal, but the opportunity to investigate the influence of optimistic bias on women's perceptions of risk of experiencing depression has the potential to add significantly to the understanding of the relationship between women's perceptions of their risk of experiencing depression, and their help seeking behaviours.

The minimal risk that a participant may become distressed during the completion of the questionnaires is offset by potential benefits to both the general body of knowledge and the community. The fundamental contribution to the body of knowledge that this research hopes to make examines the influence of optimistic bias on women's perceptions of their risk of experiencing depression. This study will have direct implications for the help seeking behaviours of women, and will facilitate an understanding of the relationship between self-evaluation and help seeking behaviour.

While the target of this investigation (depression) is not made explicit to participants, this minor level of deception is necessary for a number of reasons. Research dealing with optimistic bias suggests that if participants are aware that optimistic bias is being considered in relation to a specific area, such as crime, physical health, or in this case depression, participants alter their level of expressed optimistic bias in that area. The implication of such a shift in expression of optimistic bias has the potential to confound the findings of this study, and inhibit the potential findings.

17. Informed Consent:

- (a) As part of the informed consent process, it is necessary to provide information to subjects prior to obtaining consent. Please attach the information about your research which you intend to give to potential subjects. This needs to:
- state briefly the aims, procedures involved and the nature of the project, as well as a clear indication of any potential risks associated with this project;
  - if you consider subjects to be 'at risk' (see Question 16), state exactly what you tell him or her in lay language to obtain informed consent to each procedure whereby he or she is 'at risk'. This must be in a written format that is given to the subject particularly for this purpose; and
  - be written in language which may readily be understood by members of the general public, with explanation of any technical terms.

A plain language statement of the project, which will be given to all participants, is attached as Attachment 1.

- (b) Please attach a copy of your consent form (including the information to participants about the proposed research and their role within it which you supplied in answer to Question 17a). [See Attachment A for a sample consent form.]

See below

- (c) State the process you will use to obtain documentation of informed consent.

The Consent to Participate in Research Form has been appended to this document as Attachment 2.

18. Confidentiality:

- (a) Describe the procedures you will adopt to ensure confidentiality.

In order to ensure confidentiality the questionnaires will be completed in confidence and in a private location. Once the questionnaire has been completed the participant will seal it in an envelope (provided) to enhance confidentiality. The results of the questionnaires will be accessible to the researchers only, and all reporting of the data will be confidential. In the thesis and any other report relating to this study the results will be reported collectively. The questionnaire material will not need to incorporate participant names and therefore no possibility exists for connecting responses with individual participants. Because of the questionnaire nature of the study written informed consent will also be obtained from participants prior to engagement in completion of the questionnaire.

- (b) Indicate who will be responsible for the security of confidential data, including consent forms, collected in the course of the research.

The principal investigation Dr. Bernadette Hood will be solely responsible for the security of all information collected. The data will be stored in a secure cabinet.

- (c) Indicate the period for which the data will be held. (Data must be held for at least 5 years post-publication. Please refer to section 3.2 of the University's Code of Conduct for Research, 1995).

The raw data collected during this research will be stored for a period of five years after the publication of results, after which time the data will be destroyed in line with university requirements.

- (d) Name all people who will be granted access to the data and the reason for the access. People identified are required to maintain all aspects of confidentiality..

The project applicants will only access the data.

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19. Privacy:

- (a) Does this project involve the use of personal information obtained from a Commonwealth department or agency?

No

If YES you may need to comply with the requirements of the Privacy Act 1988.

Under the Commonwealth Privacy Act 1988 disclosure of personal information by Commonwealth agencies is not permitted except in a number of circumstances specified in Information Privacy Principle (IPP) II. These include consent by the individual concerned. Where consent has not been given, and where none of the other circumstances specified in IPP II apply, additional guidelines for consideration of the project application and for conduct of research apply. Note that the Act does not apply to publicly available material (such as electoral rolls).

If a Commonwealth agency (for instance, the Australian Bureau of Statistics, Commonwealth Government departments, Australian Electoral Commission, most Repatriation Hospitals) is involved in the collection, storage, security, access, amendment, use or disclosure of personal information for a research project investigators must ensure that the project complies with the requirements of the Act.

20. Any other relevant comments:

## Health Literacy Vignette

Please read the following scenario carefully. When you have finished reading you will be asked to answer two short questions.

### Scenario 1

Mary is 30 years old. She has been feeling unusually sad and miserable for the last few weeks. Even though she is tired all the time, she has trouble sleeping nearly every night. Mary doesn't feel like eating and is losing weight. She can't keep her mind on her work and puts off making decisions. Even day-to-day tasks seem too much for her. This has come to the attention of her boss, who is concerned about Mary's lowered productivity.

Please answer the following short answer questions.

What would you say, if anything, is wrong with Mary?

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How do you think Mary could best be helped?

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Please read the following scenario carefully. When you have finished reading you will be asked to answer two short questions.

### Scenario 2

Sally is 24 and lives at home with her parents. She has had a few temporary jobs since finishing school but is now unemployed. Over the last six months she has stopped seeing her friends and has begun locking herself in her bedroom and refusing to eat with the family or to have a bath. Her parents also hear her walking about her bedroom at night while they are in bed. Even though they know she is alone, they have heard her shouting and arguing as if someone else is there. When they try to encourage her to do more things, she whispers that she won't leave home because she is being spied upon by the neighbour. They realise she is not taking drugs because she never sees anyone or goes anywhere.

Please answer the following short answer questions.

What would you say, if anything, is wrong with Sally?

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How do you think Sally could best be helped?

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## WOMEN'S PERCEPTION OF ILLNESS

Age \_\_\_\_\_

Educational Level       Part Secondary

Please Tick       Completed Secondary

Tertiary (Partial or Completed)

Country of Birth \_\_\_\_\_

If you were not born in Australia how many years have you lived in Australia? \_\_\_\_\_

Illness – on the following pages are 4 illnesses  
HIV AIDS / DIABETES / DEPRESSION / BREAST CANCER.

For each illness you are required to complete a series of questions. Please answer all questions. If you have not heard of the illness move on to the next illness.

HIV / AIDS

Have you heard of this illness

Yes       No

If no please continue on to the next illness.

Please circle your response for each of the following questions – these questions all relate to HIV / AIDS

1. How likely are you to experience this illness in your lifetime

2. How serious do you believe this illness to be

3. Do you believe you can avoid contracting the disease

1                            2                            3  
Absolutely not            To some extent            Yes absolutely

4. Do you believe some people or groups of people are more likely than other people / or groups of people to get the disease

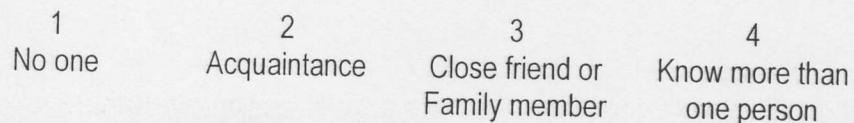
Yes       Unsure       No

If yes what type of person or group of people are more likely to experience the disease

5. How common do you believe this disease to be?



6. Do you know someone who has suffered from this illness?



7. How much do you feel you know about the disease?



8. If you had this disease would you feel – Please circle

	Not at all			
	1	2	3	Very 4
Embarrassed	1	2	3	4
Guilty	1	2	3	4
Worried	1	2	3	4
Angry	1	2	3	4
Unclean	1	2	3	4
Frightened	1	2	3	4
Ashamed	1	2	3	4
Degraded	1	2	3	4
Unlucky	1	2	3	4
Responsible	1	2	3	4
Infectious	1	2	3	4
Open to criticism	1	2	3	4
Limited in activities	1	2	3	4
Dependent on others	1	2	3	4
Withdrawn	1	2	3	4

Illness – on the following pages are 4 illnesses  
HIV AIDS / DIABETES / DEPRESSION / BREAST CANCER.

For each illness you are required to complete a series of questions. Please answer all questions. If you have not heard of the illness move on to the next illness.

DIABETES

Have you heard of this illness

Yes       No

If no please continue on to the next illness.

Please circle your response for each of the following questions – these questions all relate to HIV / AIDS

9. How likely are you to experience this illness in your lifetime

10. How serious do you believe this illness to be

11. Do you believe you can avoid contracting the disease

1	2	3
Absolutely not	To some extent	Yes absolutely

12. Do you believe some people or groups of people are more likely than other people / or groups of people to get the disease

Yes       Unsure       No

If yes what type of person or group of people are more likely to experience the disease

13. How common do you believe this disease to be?

14. Do you know someone who has suffered from this illness?

1 No one	2 Acquaintance	3 Close friend or Family member	4 Know more than one person
-------------	-------------------	---------------------------------------	-----------------------------------

15. How much do you feel you know about the disease?

0	1	2	3
Nothing			A lot

16. If you had this disease would you feel – Please circle

	Not at all			Very 4
	1	2	3	
Embarrassed				
Guilty	1	2	3	4
Worried	1	2	3	4
Angry	1	2	3	4
Unclean	1	2	3	4
Frightened	1	2	3	4
Ashamed	1	2	3	4
Degraded	1	2	3	4
Unlucky	1	2	3	4
Responsible	1	2	3	4
Infectious	1	2	3	4
Open to criticism	1	2	3	4
Limited in activities	1	2	3	4
Dependent on others	1	2	3	4
Withdrawn	1	2	3	4

Illness – on the following pages are 4 illnesses  
HIV AIDS / DIABETES / DEPRESSION / BREAST CANCER.

For each illness you are required to complete a series of questions. Please answer all questions.  
If you have not heard of the illness move on to the next illness.

# DEPRESSION

Have you heard of this illness

Yes       No

If no please continue on to the next illness.

Please circle your response for each of the following questions – these questions all relate to HIV / AIDS

17. How likely are you to experience this illness in your lifetime

18. How serious do you believe this illness to be

19. Do you believe you can avoid contracting the disease

1                            2                            3  
Absolutely not            To some extent            Yes absolutely

20. Do you believe some people or groups of people are more likely than other people / or groups of people to get the disease

Yes       Unsure       No

If yes what type of person or group of people are more likely to experience the disease

21. How common do you believe this disease to be?

22. Do you know someone who has suffered from this illness?

1 No one	2 Acquaintance	3 Close friend or Family member	4 Know more than one person
-------------	-------------------	---------------------------------------	-----------------------------------

23. How much do you feel you know about the disease?

0	1	2	3
Nothing			A lot

24. If you had this disease would you feel – Please circle

	Not at all			Very 4
	1	2	3	
Embarrassed				
Guilty	1	2	3	4
Worried	1	2	3	4
Angry	1	2	3	4
Unclean	1	2	3	4
Frightened	1	2	3	4
Ashamed	1	2	3	4
Degraded	1	2	3	4
Unlucky	1	2	3	4
Responsible	1	2	3	4
Infectious	1	2	3	4
Open to criticism	1	2	3	4
Limited in activities	1	2	3	4
Dependent on others	1	2	3	4
Withdrawn	1	2	3	4

Illness – on the following pages are 4 illnesses  
HIV AIDS / DIABETES / DEPRESSION / BREAST CANCER.

For each illness you are required to complete a series of questions. Please answer all questions.  
If you have not heard of the illness move on to the next illness.

## BREAST CANCER

Have you heard of this illness

Yes       No

If no please continue on to the next illness.

Please circle your response for each of the following questions – these questions all relate to HIV / AIDS

25. How likely are you to experience this illness in your lifetime

1	2	3	4
Extremely unlikely			Extremely likely

26. How serious do you believe this illness to be

1	2	3	4
Not at all serious			Extremely serious

27. Do you believe you can avoid contracting the disease

1	2	3
Absolutely not	To some extent	Yes absolutely

28. Do you believe some people or groups of people are more likely than other people / or groups of people to get the disease

Yes       Unsure       No

If yes what type of person or group of people are more likely to experience the disease

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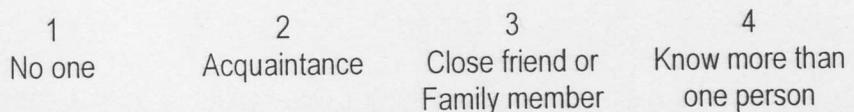
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29. How common do you believe this disease to be?



30. Do you know someone who has suffered from this illness?



31. How much do you feel you know about the disease?



32. If you had this disease would you feel – Please circle

	Not at all			Very 4
	1	2	3	
Embarrassed				
Guilty	1	2	3	4
Worried	1	2	3	4
Angry	1	2	3	4
Unclean	1	2	3	4
Frightened	1	2	3	4
Ashamed	1	2	3	4
Degraded	1	2	3	4
Unlucky	1	2	3	4
Responsible	1	2	3	4
Infectious	1	2	3	4
Open to criticism	1	2	3	4
Limited in activities	1	2	3	4
Dependent on others	1	2	3	4
Withdrawn	1	2	3	4

## The Life Events Questionnaire

Please rate the likelihood that each of the following events will happen or not happen to you over the following month. Please circle your response.

	Definitely will <b>not</b> happen	Probably will <b>not</b> happen	Probably <b>will</b> happen	Definitely <b>will</b> happen
Fail a test	1	2	3	4
Miss an appointment because you forgot about it	1	2	3	4
Try to learn a new skill (e.g., cook a new dish, play a new sport, play a new instrument)	1	2	3	4
Break or lose something that would cost more than \$ 20 to replace	1	2	3	4
Fall out of touch with a good friend with whom you normally keep in contact	1	2	3	4
Change your physical appearance (weight, dress, hair style) in a specific way you like	1	2	3	4
In a group of at least five people, make a joke or humorous comment at which they laugh	1	2	3	4
Go on three or more dates with the same person	1	2	3	4
Buy something costing more than \$ 100 that you want very much	1	2	3	4
Be unable to fall asleep for over an hour due to anxiety or stress	1	2	3	4
Have someone complain about your performance or behaviour	1	2	3	4
Be sent money by a relative for something other than expenses	1	2	3	4
Meet someone new with whom you expect to be friends for years	1	2	3	4
Leave the local area (for pleasure) for at least 2 days	1	2	3	4

	Definitely will <b>not</b> happen	Probably will <b>not</b> happen	Probably will <b>happen</b>	Definitely <b>will</b> happen
Feel badly enough about your behaviour or physical appearance at a specific occasion that you worry about it the next day	1	2	3	4
Spend more than \$ 10 on something you will never use	1	2	3	4
Have a period of more than a day when you can get very little done because you feel too down or discouraged	1	2	3	4
Attend a live concert or performing arts show that you enjoy	1	2	3	4
Save more than \$ 20 on a major purchase	1	2	3	4
Not have enough money to pay a bill or buy something you need	1	2	3	4
Throw an object in anger on more than 1 occasion	1	2	3	4
Give a party in which more than 10 people attend	1	2	3	4
Join a club or a team in which you feel you will remain a member for at least a year	1	2	3	4
Attend a professional sporting event	1	2	3	4
Be in a situation where you wish you had said no to someone but did not	1	2	3	4
Call a relative and ask to borrow money	1	2	3	4
Do some type of volunteer work	1	2	3	4
Have an allergic reaction	1	2	3	4
Be awakened from your sleep by an unpleasant dream	1	2	3	4
Feel a sense of elation after some success or accomplishment	1	2	3	4

*Note:* From J.S. Shrauger, E. Mariano, and T.J. Walter, *Personality and Social Psychology Bulletin* (24,8) pp. 880-892.

## **APPENDIX G**

### **G.1 The treatment of depression**

#### **G.1.1 Service utilisation trends**

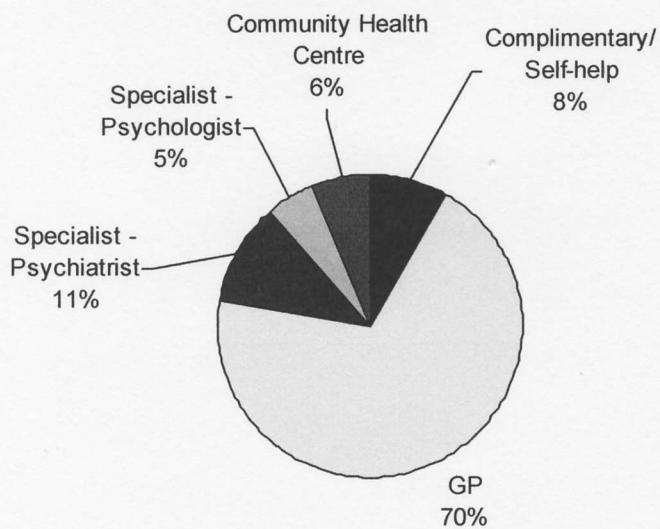
Jorm and colleagues (2002) observed the complicated nature of service utilisation research in depression. They suggested that a large number of sufferers, who presented with symptoms that fell short of a diagnosis for depression or a depressive disorder, were likely to contribute to an under-estimation of service utilisation. In part due to individual and professional difficulties in adequately recognising depression, and in part due to many Australians stating a preference for self-help and complementary therapies for depression (Jorm et al., 2002). Further, one of the major problems in the area of assessing and treating depression is that it was necessary to rely, to a large extent, on the self-report of individuals who display a tendency to under-report their symptoms (Hunt et al., 2003). Studies such as that by Andrews et al. (1999) revealed that on average it takes ten years after the onset of depression for the condition to be diagnosed. Additional research such as that by Hickie, Davenport and Ricci (2002) revealed that most patients with depression presenting to general health services do not receive a psychological diagnosis or appropriate interventions.

Howard et al. (1996) summarised the state of research in treatment service utilisation suggesting that 'We have provided an overview of 'the facts' about service utilisation... No attempt has been made here to address the 'why' (p.702). Howard et al. (1996) evaluated patterns of mental health service utilisation in America and found that individuals with depression were most likely to have been treated by a general

practitioner. Similar patterns of service utilisation for depression had previously been reported by Rogers, Wells, Meredith, Sturm and Burnam (1993) who found that of the 617 individuals they studied 60% were treated by general practitioners (GP), 21% were seen by a psychologist or non-medical health provider and 20% by a psychiatrist. Studies have attempted to explore attitudes of the general public to depressive illness and its treatment (Angermeyer & Matschinger, 1996a, McKeon & Carrick, 1991). Jorm et al. (1997a) found that respondents ranked GP's as most helpful (83%) followed by counsellors (74%), family and friends (70%), telephone counselling (53%), psychiatrists (51%) and psychologists (49%).

In their study of the Asian-Pacific region, Goldney, and colleagues (2004) reported on the utilisation of health services and concluded that those who were depressed were significantly more likely to have sought help compared with those not experiencing depression. Figure G displays their findings, suggesting that many consider the GP an essential step in the treatment ladder.

**Figure G** Use of health services in the last month by individuals with depression



From Goldney, Fisher, Dal Grande and Taylor (2004)

### G.1.2 Levels of treatment for depression

As previously discussed there a sense of the trends for service utilisation in depression has been established. Indeed, epidemiological analyses into the management and treatment of depression have provided substantive data on current practice and identified public attitudes to the illness that support the major trends of (i) the management of depression by general practitioners in preference to mental health specialists, and (ii) the tendency to seek non-pharmacological treatment strategies for the illness (Goldney et al., 2004).

The variety of treatment options includes complimentary and self-help approaches, which have been demonstrated to be more helpful than no treatment at all (Griffiths &

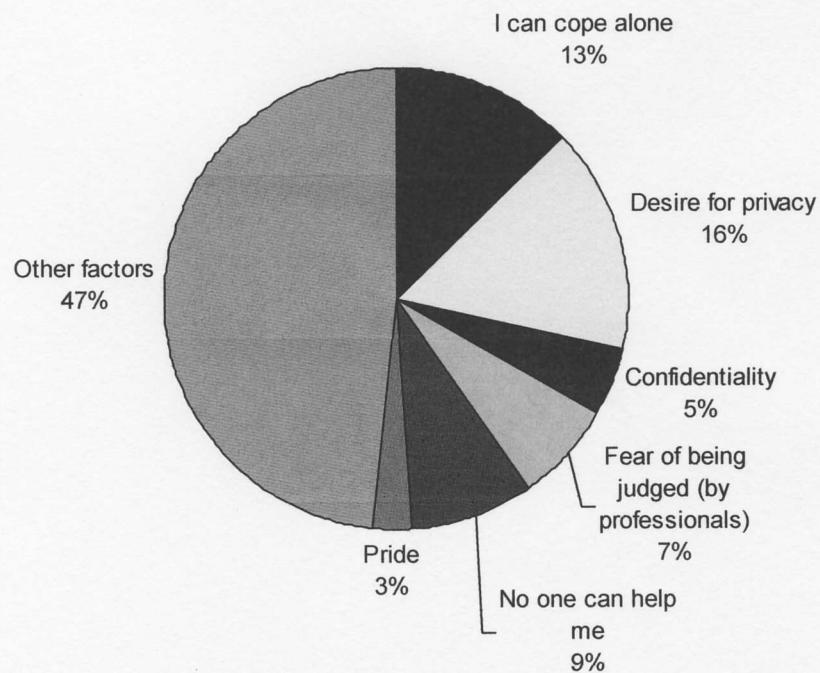
Christensen, 2002; Jorm et al., 2002; Snyder & Ingram, 1983). Further Rickwood (2004) noted that the Internet was a popular choice among adolescents because it enabled help seekers to remain anonymous. The use of the GP as a source of treatment for depression has been shown to be a popular choice within the community (Clarkin, Pilkonis & Magruder, 1996; Ellis & Smith, 2002; Giron, Manjon-Arce, Puerto-Barber, Sanchez-Garcia & Gomez-Beneyto, 1998; Jorm et al., 1997c; Katon, VonKorff, Lin, Bush & Ormel, 1992; Main, Lutz, Barrett, Matthew & Miller, 1993; Meredith, Wells, Kaplan & Mazel, 1996; Naismith, Hickie, Scott & Davenport, 2001; Parslow & Jorm, 2000; Ross & Hardy, 1999). However, there appear to be mixed findings regarding the usefulness of this treatment, particularly in relation to GP's ability to adequately recognise depression and their apparent reluctance to refer to specialist mental health services (Olfson & Pincus, 1994). The use of specialist mental health services appears limited, with studies reporting varied utilisation rates (Fennell, 1993; Goldney et al., 2004; Hickie, 2004; Jorm et al., 1997a). The use of psychological treatment interventions has historical relevance, however a number of factors influence the use of such services.

The pharmacology/non-pharmacology debate highlights the complex nature of treating depression. On the one hand there exists evidence that the rate of prescriptions for anti-depressants is climbing, whilst on the other hand there appears reluctance from the community to consider anti-depressants an effective treatment option (Donoghue, Tylee & Wildgust, 1996; Hood et al., 1999; MacDonald, McMahon, Reid, Fenton & McDevitt, 1996; Tylee et al., 1999). Non-compliance with treatment is further complicated by psychological, economic and social factors that interact to create or enforce barriers to treatment.

Separate to this data is the evidence that up to 50% of individuals do not seek treatment. Given the impact of untreated depression on an individual's life, there is a persuasive need to understand the barriers to treatment experienced by this cohort. Despite general acknowledgment within the literature about the existence of barriers to treatment confounding influences such as gender are not well articulated. It therefore seems necessary to understand how people seek help in order to further understand the complexities involved in treating depression.

## APPENDIX H

**Figure H Barriers to seeking professional help**



Adapted from Outram, Murphy and Cockburn (2004). This table includes the 6 most common responses provided by participants in their study.

**Table 2 HIV/Aids (HIV) Correlations**

	<b>Age</b>	<b>Education Level</b>	<b>Pos Bias</b>	<b>Neg Bias</b>	<b>Total Bias</b>	<b>HIV PR</b>	<b>HIV PS</b>	<b>HIV PC</b>	<b>HIV ST</b>	<b>HIV COM</b>	<b>HIV KS</b>	<b>HIV KNOW</b>	<b>HIV ATT</b>
<b>Age</b>		-.420** .000 105	-.081 .414 105	-.101 .306 105	-.105 .286 105	.015 .875 105	.155 .113 105	.017 .861 105	.134 .172 105	-.075 .446 105	.158 .108 105	.166 .090 105	-.042 .667 105
<b>Education Level</b>			.241** .013 105	.070 .480 105	.243* .012 105	-.141 .153 105	-.029 .771 105	.069 .961 105	-.118 .486 105	-.124 .229 105	-.002 .208 105	-.002 .985 105	-.181 .065 105
<b>Pos Bias</b>				.122 .216 105	.802** .000 105	-.038 .702 105	-.048 .630 105	.129 .189 105	-.035 .720 105	-.031 .753 105	.019 .849 105	-.025 .802 105	-.011 .913 105
<b>Neg Bias</b>					.681*** .000 105	.161 .100 105	-.126 .199 105	-.127 .197 105	-.019 .847 105	.137 .163 105	.085 .388 105	.075 .444 105	-.062 .527 105
<b>Total Bias</b>						.070 .477 105	-.113 .251 105	.015 .882 105	-.016 .870 105	.049 .620 105	.053 .592 105	.023 .812 105	-.058 .560 105
<b>HIV PR</b>							.078 .427 105	-.185 .059 105	.029 .770 105	.084 .395 105	.096 .330 105	.175 .075 105	.005 .960 105
<b>HIV PS</b>								.142 .149 105	.040 .687 105	-.143 .145 105	.129 .190 105	.164 .094 105	-.032 .745 105
<b>HIV PC</b>									.084 .396 105	.088 .371 105	.122 .213 105	.171 .081 105	.138 .160 105
<b>HIV ST</b>										-.135 .171 105	-.135 .170 105	.160 .103 105	-.057 .152 105
<b>HIV COM</b>											-.049 .618 105	-.081 .414 105	.015 .105
<b>HIV KS</b>												.329** .001 105	.236* .584 105
<b>HIV KNOW</b>													-.086 .584 105
<b>HIV ATT</b>													

\*\*. Correlation is significant at the 0.01 level (2-tailed)

\*. Correlation is significant at the 0.05 level (2-tailed)

**Table 3 Diabetes (Diab) Correlations**

	Age	Education Level	Pos Bias	Neg Bias	Total Bias	Diab PR	Diab PS	Diab PC	Diab ST	Diab COM	Diab KS	Diab KNOW	Diab ATT
<b>Age</b>	-.420** .000 105	-.081 .414 105	-.101 .306 105	.141 .286 105	.258** .008 105	.041 .675 105	.038 .698 105	-.101 .305 105	.020 .842 105	-.010 .917 105	.017 .860 105		
<b>Education Level</b>		.241** .013 105	.070 .480 105	.243* .012 105	.031 .755 105	-.136 .166 105	.257** .008 105	.170 .084 105	-.072 .463 105	.038 .700 105	.073 .457 105	.015 .880 105	
<b>Pos Bias</b>			.122 .216 105	.802** .000 105	.083 .397 105	-.076 .441 105	-.044 .656 105	.044 .655 105	.046 .640 105	.157 .109 105	.069 .482 105	.153 .119 105	
<b>Neg Bias</b>				.681** .000 105	.110 .265 105	.259** .008 105	-.011 .915 105	.010 .922 105	.140 .153 105	-.013 .897 105	.095 .336 105	.070 .481 105	
<b>Total Bias</b>					.123 .212 105	.101 .305 105	-.019 .846 105	.051 .608 105	.122 .217 105	.107 .277 105	.109 .267 105	-.070 .481 105	
<b>Diab PR</b>						.321** .001 105	-.064 .519 105	.029 .770 105	.059 .552 105	.157 .110 105	.188 .055 105	.079 .424 105	
<b>Diab PS</b>							-.062 .529 105	.191 .051 105	.171 .080 105	.118 .231 105	.144 .141 105	.204* .037 105	
<b>Diab PC</b>								.340** .000 105	.077 .434 105	.086 .381 105	.045 .649 105	.223* .022 105	
<b>Diab ST</b>									-.086 .381 105	.208* .033 105	.128 .194 105	.003 .972 105	
<b>Diab COM</b>										.055 .579 105	.177 .071 105	.054 .584 105	
<b>Diab KS</b>											.328** .001 105	.052 .599 105	
<b>Diab KNOW</b>												.072 .465 105	
<b>Diab ATT</b>													

\*\*. Correlation is significant at the 0.01 level (2-tailed)  
 \*. Correlation is significant at the 0.05 level (2-tailed)

**Table 4 Depression (Dep) Correlations**

	Age	Education Level	Pos Bias	Neg Bias	Total Bias	Dep PR	Dep PS	Dep PC	Dep ST	Dep COM	Dep KS	Dep KNOW	Dep ATT
Age		-.420** .000 105	-.081 .414 105	-.101 .306 105	-.105 .286 105	-.067 .498 105	.069 .485 105	-.003 .978 105	-.038 .700 105	-.130 .185 105	.143 .144 105	.074 .452 105	-.148 131 105
Education Level			.241** .013 105	.070 .480 105	.243* .012 105	.038 .702 105	-.136 .168 105	-.125 .205 105	.126 .202 105	-.064 .518 105	-.071 .471 105	-.071 .475 105	-.089 .367 105
Pos Bias				.122 .216 105	.802** .000 105	-.224* .022 105	-.155 .114 105	-.165 .092 105	.039 .695 105	.060 .543 105	.017 .863 105	-.127 .195 105	-.253** .009 105
Neg Bias					.681** .000 105	.210* .031 105	-.053 .594 105	-.219* .025 105	-.040 .688 105	.117 .237 105	.223* .022 105	-.053 .590 105	.187 .056 105
Total Bias						-.036 .717 105	-.140 .156 105	-.254** .009 105	.010 .918 105	.113 .250 105	.140 .155 105	-.133 .253 105	-.083 .401 105
Dep PR							.208* .033 105	-.286** .003 105	.151 .125 105	.286** .003 105	.341** .000 105	.386** .000 105	.051 .606 105
Dep PS								-.039 .692 105	.165 .093 105	.266** .006 105	.055 .580 105	.275** .005 105	.277** .004 105
Dep PC									-.121 .221 105	-.104 .291 105	-.205 .036 105	-.086 .386 105	.134 .172 105
Dep ST										.013 .893 105	.094 .339 105	-.042 .671 105	-.029 .766 105
Dep COM											.321** .001 105	.503** .000 105	.156 .111 105
Dep KS												..427** .000 105	-.057 .565 105
Dep KNOW													.052 .597 105
Dep ATT													

\*\*. Correlation is significant at the 0.01 level (2 tailed)  
 \*. Correlation is significant at the 0.05 level (2 tailed)

**Table 5 Breast Cancer (BC) Correlations**

	Age	Education Level	Pos Bias	Neg Bias	Total Bias	BC PR	BC PS	BC PC	BC ST	BC COM	BC KS	BC KNOW	BC ATT
Age	-.420** .000 105	-.081 .414 105	-.101 .306 105	-.105 .286 105	.072 .467 105	.045 .649 105	.032 .746 105	-.095 .333 105	.029 .766 105	-.043 .666 105	.132 .178 105	-.131 .184 105	
Education Level	.241** .013 105	.070 .480 105	.243* .012 105	.059 .550 105	-.076 .441 105	-.005 .958 105	.078 .428 105	-.270** .005 105	.098 .318 105	-.247* .011 105	.247* .578 105	-.055 .578 105	
Pos Bias		.122 .216 105	.802** .000 105	.010 .917 105	-.198* .043 105	.013 .236 105	.117 .236 105	-.125 .204 105	.075 .447 105	-.006 .949 105	.141 .150 105	-.141 .150 105	
Neg Bias			.681** .000 105	.029 .769 105	.051 .604 105	.021 .830 105	-.080 .416 105	.007 .943 105	-.040 .682 105	-.157 .110 105	.198* .042 105		
Total Bias				.022 .822 105	-.121 .220 105	.031 .753 105	.027 .787 105	-.084 .392 105	.020 .840 105	-.103 .294 105	.005 .294 105		
BC PR					.176 .073 105	-.236* .016 105	.017 .866 105	.135 .170 105	.175 .074 105	.333** .001 105	.065 .508 105		
BC PS						-.102 .301 105	-.032 .747 105	.152 .121 105	-.016 .870 105	.102 .299 105	.249* .010 105		
BC PC							.136 .167 105	.026 .796 105	-.117 .235 105	.033 .738 105			
BC ST								.116 .239 105	.118 .231 105	.068 .488 105	.014 .889 105		
BC COM									.113 .251 105	.196* .045 105			
BC KS										.240* .014 105	.038 .698 105		
BC KNOW											-.046 .645 105		
BC ATT													

\*\*. Correlation is significant at the 0.01 level (2-tailed)

\*. Correlation is significant at the 0.05 level (2-tailed)