

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Response Style, Gender, and Depressed Mood.

Suzanne Mary Madsen

A thesis submitted in partial fulfilment of the requirements for the degree of Master of Arts in Psychology, Massey University at Albany, 1998.

ABSTRACT

The present study was an attempt to replicate and extend the observational study reported by Nolen-Hoeksema, Morrow, and Fredrickson (1993). Nolen-Hoeksema et al. found support for Nolen-Hoeksema's 'response style' theory -- which explains the gender difference in depression rates as a byproduct of gender-specific styles of responding to depression (a ruminative style being associated with longer and more severe episodes of depression). Sixty-four students completed three initial pencil-and-paper measures and then tracked their naturally occurring depressed moods for thirty consecutive days via a 'Daily Emotion Report'. Participants recorded the characteristics of their depressed moods (e.g., severity and duration), their responses to these moods (e.g., type and effectiveness), and the characteristics of any event precipitating the mood (e.g., seriousness). Over the 30-day period, individuals showed a high consistency in response to depressed mood. However, contrary to Nolen-Hoeksema et al.'s findings, there were no sex differences in levels of depression nor in response styles to depressed mood. Of Nolen-Hoeksema's two response styles, distraction was used predominantly by respondents and 'distracters' tended to fare better than 'ruminators'. The number of initial ruminative and distractive responses and the initial severity of the moods at episode onset did not differ significantly over the month, nor did they prolong episodes. Regression analyses showed that severity of sadness was the most important and consistently significant predictor of the duration of depressed mood.

ACKNOWLEDGMENTS

Grateful thanks and acknowledgment is made to Dr. Philip J. Voss for all his help in the progression and completion of this research project and his mathematical genius in analysing the data. From day one when I first indicated my research interest was towards investigating depressed moods Philip helped me get started. His sense of humour is always refreshing and on the edge! Philip has been a great supervisor and mentor. I have learnt heaps from him and consider him a friend.

Thanks to the participants -- finding people willing to fill out a diary for 30 days is a big commitment considering the current pace of life.

Thanks to my dear husband Ulrich Madsen for his unwavering support in nurturing our family and organising the household while I have been consumed with academic concerns.

Thanks to Mum (Doreen Wallace) who always gave me positive encouragement when it was needed.

For Rachel, Matthew, and precious Leith -- take each day at a time, eventually you will reach your goal.

TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
LIST OF FIGURES	viii
Part 1. Evidence for Sex differences in depression	1
Cross-national depression research	2
General problems in depression research	3
Sex differences specifically in depression	4
No sex differences in non-representative samples	7
Comorbidity issues in depression research	9
General problems associated with sex difference research	11
Sex differences - fact or artefact?	12
The Diagnostic Interview Schedule (DIS)	12
Recall and interviewer differences	13
Acknowledgment of depressive symptoms	13
Poverty	14
Kinds of symptoms	15
Main categories of explanations	16
Biological explanations	17
The menstrual cycle	18
Pregnancy	19
Postpartum	19
Menopause	20
Other hormonal influences	20
Genetic predisposition	21
Psycho-social explanations	23
Sex differences in personality traits	24
Sex differences in personality development	26
Early gender identity construction	27
Sexual abuse	27
Marital status	28
Roles	29
Life events	30
Summary of Part 1	32

	Page
Part 2. Evidence for sex differences in response styles to depressed mood	37
Nolen-Hoeksema's (1987) 'response style' theory	37
Definitions of a ruminative and distractive coping style	39
Cognitive and behavioural-attentional style	39
Implications of response styles in cognitive-behavioural therapy	41
What rumination and distraction can do	42
Self-focus	43
Attributional style	45
Origins of sex differences in response styles	46
Childhood	46
Adolescence	47
Coping styles	48
Sex differences in coping styles	50
Summary of Part 2	51
Summary of Introduction	54
METHOD	57
Participants	57
Procedure	57
Measures	58
The Beck Depression Inventory (BDI)	58
The Internal-External Locus of Control Scale (LOC)	59
The Response Styles Questionnaire (RSQ)	60
The Daily Emotion Report (DER)	60
RESULTS	62
Analytic strategy	62
Initial screening of data	62
Data analyses	63
The temporal consistency of individual's response styles	65
The seriousness of events and response style	66
Summary of initial measures	67
The RSQ	67
The LOC	68
The BDI	69

	Page
Sex differences in response styles and depressive experiences	70
The effect of predominant response style	72
Definitions of episodes	74
Duration and severity	77
Initial episode response style and initial episode severity	78
Regression analyses	79
DISCUSSION	84
A comparison with Nolen-Hoeksema et al.'s (1993) findings	86
Possible reasons for the different findings	88
Power	88
The DER	88
Cutoff scores	89
Cultural differences	89
Relating the present findings to the extant literature	90
Student samples	90
Mild depression	90
Anxiety comorbidity	91
Evidence for sex differences in response style to depressed moods	92
Ruminative and distractive response styles	93
Life events	94
Limitations and future research objectives	95
The RSQ and The DER	95
Final summary	96
APPENDICES	99
Appendix A: Cross-national rates of depression	99
Appendix B: Christchurch Psychiatric Epidemiology Study: Part 1	100
Appendix C: Temporal trends in rates of major depression	101
Appendix D: Information sheet	102
Appendix E: Consent form	103
Appendix F: Three measures (RSQ, LOC, BDI)	104
Appendix G: Daily Emotion Report (DER)	113
REFERENCES	115

LIST OF TABLES

	Page
Table 1. Relative Frequency Distributions for Initial Measures	64
Table 2. Summary of Initial Measures	69
Table 3. Characteristics of Relative Frequency Distributions for some DER variables	70
Table 4. The DER	71
Table 5. The Status of Distracters and Ruminators	73
Table 6. Total Episodes and Length of Episodes	75
Table 7. The DER Episodes	76
Table 8. Regressions for Sex Differences in Response Styles to Depressed Mood	80

LIST OF FIGURES

	Page
1. Relative Frequency Distributions for some DER Variables	63

PART 1. EVIDENCE FOR SEX DIFFERENCES IN DEPRESSION

Depression has been labelled the 'common cold' of mental illness. Depressed mood can work as either a concomitant or precursive factor in the expression of mental illness. Since World War II, the incidence of depression has risen amongst western societies along with remarkable rises in disrupted family and interpersonal relationships, substance abuse, violence, time constraints, and rapid changes in work-force expectations. It is interesting to note that increases in depression rates have occurred during earlier times of rapid social change and many suggest present rates parallel early 17th century England when depression reached epidemic proportions (Weissman & Klerman, 1977).

Depression is a hidden epidemic with often fatal outcomes -- mild mood complaints may hide extreme despair (Gilbert, 1992). Suicide is the most dramatic sign of despair. Many accidents can mask depression-related suicide attempts and fatalities (Beck, 1967). Currently, our understanding of depression has come along way from the early exogenous or endogenous position of psychiatry where ignorance of social and psychogenic contributory factors was common (Beck, 1973; cited in Gilbert, 1992). Thus, depression is now viewed as a chronic recurrent illness (Keller, 1994; McGrath, Keita, Strickland & Russo, 1990; Mendels, 1994) emanating from interrelated phenomena.

Difficulty in delineating the relative contribution of biological, sociological and environmental factors to the manifestation of any mood disorder is common. These factors interact too. The instant dismissal of biological factors by many investigators is regrettable as these factors have been informative in the treatment and on-going care of those suffering from depression. The general consensus amongst researchers is that focusing on small sets of variables that interact at the biological, sociological, and cognitive levels can help build tightly woven, useful theoretical explanations of the depressive experience.

The present study focuses on adulthood major depression (i.e., 'unipolar depression'); that is individuals who suffer from depression without mania, according to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV, 4th edition; American

Psychiatric Association, APA, 1994). Major depressive disorder (MDD) is characterised by one or more major depressive episodes (i.e., at least two weeks of depressed mood or loss of interest accompanied by at least four additional symptoms of depression; APA, 1994).

The predominant feature of the *DSM-IV* depressive disorders is a disturbance in mood, and dysthymic disorder and MDD are differentiated by severity and chronicity (APA, 1994). However, sad periods may not be indicative of MDD unless criteria for severity and duration are met (APA, 1994). The depression literature includes many definitions for depressive experiences (McGrath et al., 1990; Miletich, 1995). Indeed, the conceptualisation, assessment and diagnosis of depression continues to be problematic (Culbertson, 1997).

Cross-National Depression Research

Cross-cultural comparisons of depressive experiences and prevalence rates can provide information on possible aetiological variables and inform on symptomatology, risk factors, developmental characteristics, educational and occupational status differences, and sex differences (Culbertson, 1997; McGrath et al., 1990; Nolen-Hoeksema, 1987; Weissman & Klerman, 1977). Culture influences the experience of depressive symptomatology through language, beliefs, values, and experiences (APA, 1994). Some investigators claim depression has increased dramatically in developing nations in the last two decades (Klerman, 1988; Schwab, 1989; both cited in Gilbert, 1992). There has also been a tendency for cross-cultural findings to show an association between depression and societal affluence, although further research on this is necessary (Culbertson, 1997; McGrath et al., 1990). For example, as developing nations increasingly become part of the global economic community, cross-cultural research findings on depression may highlight whether there is support for the socio-historical change and depression hypothesis.

An international collaborative group was formed to analyse cross-national data using a common data plan and definition and using the 'Diagnostic Interview Schedule' (DIS) to yield *DSM-III* psychiatric

diagnoses. Ensuring there was careful adjustment for methodological diversity, data from an epidemiological study of psychiatric disorders conducted in Christchurch by Wells, Bushnell, Hornblow, Joyce and Oakley-Browne (1989) were compared with corresponding data from Edmonton, The United States, and Munich (Cross-National Collaborative Group, 1992; Weissman, Bland, Joyce, Newman, Wells & Wittchen, 1993). The findings demonstrated that the incidence of MDD in New Zealand was the highest overall at 13% compared with a mere 6% for the United States (see Appendix A; Weissman, et al., 1993). Joyce, Oakley-Browne, Wells, Bushnell and Hornblow (1990) have argued that New Zealand and other countries may be entering “an age of melancholy” (p. 83).

General Problems In Depression Research

Methodological problems in depression research can confound the accuracy of prevalence rates for depression. The use of the Beck Depression Inventory (BDI) and student samples are two problems that are discussed in relation to depression research generally. However, comorbidity problems associated with depression research are also important and will be considered in the next section.

Kendall, Hollon, Beck, Hammen and Ingram (1987) made the following recommendations for research on depression: (1) Multiple assessment periods and methods; (2) comparison groups; (3) less reliance on student samples; (4) a depression and dysphoria distinction; (5) and more consistency in BDI cut-off scores. However, according to a recent review by Tennen, Hall, and Affleck (1995), little has changed in the last 10 years. For example, Tennen et al. have criticised three prominent studies by Nolen-Hoeksema and colleagues on methodological grounds (Lyubomirsky & Nolen-Hoeksema, 1993; Nolen-Hoeksema & Morrow, 1991; Nolen-Hoeksema, Parker & Larson, 1994). None of the studies employed an anxiety control and two of the studies lacked multiple assessment periods and methods.

Most depression researchers consider the use of student samples problematic (Coyne & Gotlib, 1983; Deardoff & Funabiki, 1985; Gotlib, 1984; all cited in Tennen, et al., 1995). Two issues arise that can hinder

accurate assessment of the depression prevalence: Whether BDI cutoff scores indicate depression or dysphoria, and whether two criteria specific for MDD, sad mood and loss of interest, are present (Tennen et al., 1995). Time constraints when using student samples often prevent the gathering of additional support from a structured interview concerning any individual history of mood disorder. However, some investigators argue that depression in student samples is not qualitatively different from that in psychiatric populations, and feel the student environ and related stressors are sufficient for their use when sample size and statistical power would otherwise be small (Kendall & Flannery-Schroeder, 1995; Vredenburg et al., 1993; cited in Tennen et al., 1995). Nevertheless, Kendall et al. (1995) point out that strong conclusions require a corresponding level of methodological rigour.

Sex Differences Specifically In Depression

Culbertson (1997) compiled a number of significant international publications on the subject of sex differences in depression including: Nolen-Hoeksema (1987,1990); the World Health Organization (WHO); National Institute of Mental Health (NIMH); Depression, Awareness, Recognition, and Treatment Program (D/ART); American Psychological Association (APA) task force report; Depression Guideline Panel and the Agency for Health Care Policy and Research (AHCPR); and the National Comorbidity Study (NCS); all of these studies found women were at greater risk for depression, and had higher rates of depression, than men.

Women are diagnosed and report major depressive symptoms more frequently than men across many countries, time periods, and community and epidemiological surveys (Weissman & Klerman, 1977). Despite methodological problems, sex differences in depression rates are perhaps the single most robust finding in psychiatric epidemiology (Bebbington, 1996; Culbertson, 1997; McGrath et al., 1990; Nolen-Hoeksema, 1987; Weissman & Klerman, 1977). Although no studies have examined sex differences in depression in a New Zealand context. Cross-national epidemiological studies provide consistent evidence of sex

differences in rates of depression with lifetime rates for women in New Zealand at 17% and men at approximately 9% (Weissman et al., 1993).

Cross-national collaborative research has provided information concerning temporal trends and cohort differences for MDD. Overall, rates are increasing over time with increasingly younger birth cohorts at risk (see Appendix C; Cross-National Collaborative Group, 1992; Culbertson, 1997; McGrath et al., 1990; Wittchen, Knauper & Kessler, 1994). Women's preponderance in depression peaks for milder affective conditions in early adulthood and declines after menopause, however, men's rates tend to rise after 55 years of age (Meltzer et al., 1995; cited in Bebbington, 1996). There appears to be no significant sex difference in either the mean age of first onset for MDD, which is between 27 and 30 for both women and men (Weissman & Klerman, 1977), or in the course of MDD (Simpson, Nee & Endicott, 1997). A study conducted by Newman, Engel and Jensen (1991; cited in Culbertson, 1997) found evidence for two different depressive symptom patterns in an aging female sample; they labelled younger age cohorts as having a 'depressive syndrome' and older age cohorts were labelled as having a 'depletion syndrome'.

Women's rates in depression have stabilised in generations born since 1945 but continue to rise for men in Christchurch, New Zealand (Cross National Collaborative Group, 1992; Wolk & Weissman, 1995; cited in Bebbington, 1996). However, Wittchen et al. (1994) argues that the stabilising trend in women's depression rates cannot be linked to changing societal roles due to a lack of empirical support. Although feminism may have brought higher expectations for women, Weissman and Klerman (1977) have pointed out that the female preponderance in depression preceded feminism. Nolen-Hoeksema (1990) has suggested that the increased rates in depression for men may indicate an increase in their use of a ruminative coping style (i.e., pondering and meditating) but there is a lack of empirical support for this hypothesis. Of course, it is possible that acceptable ways of responding to stress in the current age may have moved beyond traditional gender stereotypes.

An international trend used as an indirect index of the seriousness of depression is the cross-national rise in suicide amongst young adults. Suicide attempts have increased over recent years and New Zealand has the highest lifetime rates of suicide attempts when compared with

corresponding data from Edmonton, Munich, and the United States (Weissman et al., 1993; Wittchen et al., 1994). However, sex differences also emerge in suicide-related behaviour. Acknowledging that there are many factors that contribute to suicide, 'suicide-attempters' tend to be mostly women and 'suicide-completers' tend to be mostly men. It is possible that women may release their despair through suicide attempts that tend to impede suicide completion, whereas, men may repress their despair until intolerable levels culminate in suicide completion.

Rates of depression are extremely low for pre-schoolers but tend to rise substantially throughout childhood. Nolen-Hoeksema (1990) found that prior to puberty boys have slightly higher rates for depression than girls, although methodological problems tend to hinder generalisation. Ruble, Greulich, Pomerantz and Gochberg (1993) conducted a review of studies focusing on sex differences in depression in children that looked at achievement-related self-evaluative concerns and found that three patterns emerged (boys higher; girls higher; both equal). However, Ruble et al. highlight that measures used in the assessment of depression varied considerably. A study conducted by Nolen-Hoeksema, Girgus, and Seligman (1991) found that boys scored higher than girls on the 'Children's Depression Inventory' subscales concerning behaviour and anhedonia.

Anhedonia is an integral feature in diagnosis but Ruble et al. (1993) claim that defining this criterion in relation to school interest may present non-representative levels of depression in boys in middle childhood. Ruble et al. further suggest that there is a possibility of misleading conclusions regarding childhood sex differences in depression that result from the use of different instruments to assess depression and the use of non-clinical samples. However, the current literature indicates that there are sexually dimorphic patterns of depressive symptoms and rates of depression that occur between childhood and adolescence (Angold & Worthman, 1993). According to Angold and Worthman (1993), developmental epidemiological studies are needed on the relationship between puberty and sex differences in depression.

It is during the physiological and psychological upheaval of adolescence that the demarcation for the observed sex difference in depression rates appears to occur (Allgood-Merten, Lewinsohn, & Hops,

1990; Angold & Worthman, 1993). The NCS found that sex differences in cumulative onset risk for depression appeared at age 10 rather than at age 15 as previous studies have found. Therefore, Nolen-Hoeksema's (1987) speculation that sex differences in depression are triggered by puberty is consistent with the NCS results (Wittchen et al., 1994). Hormonal influences appear to have relevance to the sex difference in depression demarcation as well.

Hormonal influences represent the climax of intricate endocrine changes that begin about two years prior to adolescence (Apter & Vinko, 1985; cited in Susman et al., 1987). For girls, menarche tends to begin between age 9 and age 17, with one-third of all girls reaching menarche before age 11 (Bullough, 1983; cited in Lott, 1994). Thus, the increased depressive experiences girls tend to have during puberty may be partially related to rapid hormonal changes occurring when the endocrine system is undergoing its greatest change (Angold & Worthman, 1993; Brooks-Gunn & Warren, 1989).

No sex differences in non-representative samples.

Some studies of depression in non-representative samples (e.g., the Older Order Amish, residents in rural non-modern cultures, university students, the bereaved, and the elderly) have found no sex differences (Nolen-Hoeksema, 1987).

Firstly, some studies have provided supportive evidence for the idea that religious beliefs and traditional life-styles mediate well-being, and this could well be the case amongst certain groups of people (Nolen-Hoeksema, 1990). Brown and Prudo (1981) found that a traditional lifestyle and religious commitment were essential to well-being and was associated with the type and prevalence of disorders. Religious beliefs and their links with coping responses could work to mediate depression (Kisseka, 1990; cited in McGrath et al., 1990). Expressing a depressed mood could be viewed as a negative state in some religious groups, and run contrary to the preferred expression of strength and religious fervour. Many of the women in the Brown and Prudo (1981) study commented that their faith was their main source of strength (to cope with life?). In a New Zealand context, Clarke and Jensen (1997) report that belonging to a

church was important for women, although belonging to a club was important for men. Although these findings are interesting, comprehensive research is only just beginning into the relationship between religious beliefs and coping (Folkman, 1984).

Secondly, studies of depression amongst students have produced inconsistent results. Nolen-Hoeksema (1987) has suggested that perhaps only healthy women attend college, that equal access within the academic environment and strong support networks may act as depression-protective factors. In another vein, students may have highly-valued goals that tend to ameliorate any anxiety and depression that arises from their personal and public environments. However, several common methodological problems concerning student samples have been discussed previously (see section on "General Problems In Depression Research").

Thirdly, bereavement-related depression is generally considered qualitatively different from MDD because the resulting grief is expected and diminishes over time (Nolen-Hoeksema, 1987; Weissman & Klerman, 1977). Furthermore, the *DSM-IV* indicates depressive symptoms confined to within the two-month period following bereavement are bereavement-related (APA, 1994). Nevertheless, Nolen-Hoeksema et al. (1994) have studied the use of a ruminative coping style amongst the bereaved six months following a bereavement loss and claim that their findings give added support for the effects of a ruminative coping style in prolonging depression. Several measures were used in Nolen-Hoeksema et al.'s (1994) study, however, only the ruminative subscale of the 'Response Style Questionnaire (RSQ) was administered to ascertain coping style (the distraction, problem-solving, and dangerous activities subscales were not administered). Thus, other types and frequencies of coping styles used by this 'bereaved' population group were not assessed.

Fourthly, depression in elderly people is thought to include different vulnerability factors and symptomatology (i.e., other chronic conditions are often involved). Moreover, minor depression, rather than MDD, predominates amongst the elderly and the rates follow a similar pattern of sex differences in later adulthood as for MDD (Beck & Koenig, 1996). A study conducted by Newman, Engel and Jensen (1991; cited in Culbertson, 1997) in an elderly female sample found evidence for a

'depletion syndrome' which they suggest may be a quieter and more unconventional form of depression.

Comorbidity Issues In Depression Research

Prevalence studies reveal the estimates for MDD may not represent the singular disorder entity often presumed. Thus, associations between MDD and other disorders may be important when considering sex differences in depression. Men and women may exhibit different expressions of the same underlying disorder. The meagre research on minor depression and MDD shows there is a high comorbidity and transitional association between the two and, furthermore, a female preponderance emerges for minor depression as well (APA, 1994; Beck & Koenig, 1996).

Preliminary research suggests that a depressive personality disorder may underlie a mood disorder and represent the clinical and conceptual intersection of personality and depression (Corruble, Ginestet & Guelfi, 1996; Hirschfeld, 1994; Klein, Kupfer & Shea, 1993; McGrath et al., 1990). However, in terms of diagnosing depressive personality disorder in women, a diagnostic classification may be as controversial as the classification of the premenstrual syndrome. It is the well-documented role played by anxiety in the progression and expression of MDD in women that overshadows other comorbid disorders.

The two-part epidemiological survey of psychiatric disorders conducted in Christchurch by Wells et al. (1989) included MDD lifetime prevalence rates (see Appendix B). Part 1 considered lifetime prevalence and Part 2 (Oakley-Browne, Joyce, Wells, Bushnell & Hornblow, 1989) considered other period prevalence (e.g., 2 weeks, 1 month, 6 month, 1 year, lifetime, and 1 year recovery). The findings from both parts were equivocal -- women predominated in anxiety and affective disorders and men predominated in substance abuse disorders (Oakley-Browne et al., 1989; Wells, et al., 1989). Feehan, McGee, Raja and Williams (1994) conducted a longitudinal cohort study in Dunedin and they argued that Wells et al. had omitted disorders in early adulthood -- a period Nolen-Hoeksema (1987) considers crucial in the sex divergence in rates of

depression. Feehan et al.'s findings did echo those of Wells et al. in highlighting the role that anxiety and substance abuse may play as disorders (and coping styles?) that are sex different in their expression. However, Feehan et al. point out that substance abuse among females was high and not significantly different from that found among males.

Improved diagnostic differentiation of anxiety and mood disorders may modify the prevalence rates (Hirschfeld, 1994; Wittchen et al., 1994). Nevertheless, women may still preponderate overall in both categories but with a different distribution across the disorders. McGrath et al. (1990) argue that misdiagnosis of MDD occurs frequently (i.e., a diagnosis of posttraumatic stress disorder due to rape or abuse as MDD). Anxiety disorders are common in New Zealand and have significant morbidity (in both adolescence and adulthood) and comorbidity with depression and substance abuse (Feehan et al., 1994; Oakley-Browne, 1995). Wells et al. (1989) recalculated the anxiety rate to exclude depression and schizophrenia; the anxiety rate dropping from 31% to 22%. However, less change occurred in men's rates (27% dropped to 22%) than in women's rates (35% dropped to 23%) -- perhaps a further indication that 'anxiety' confounds the true prevalence rates for MDD in women.

In a longitudinal study, Wilhelm and Parker (1994) reported that anxiety and depressive symptoms frequently alternated, and Brown and Prudo (1981) found that, although depression was the most common disorder in women, anxiety was usually present at case level. Investigative research concerning sex differences in depression should consider this comorbid pairing, along with a possible sex difference in the expression of depressed mood, thus promoting a greater understanding of what the prevalence rates for these disorders might actually reflect.

Burns and Nolen-Hoeksema (1992) suggest there is a high comorbidity between depression and anxiety. However, a study conducted by Breslau, Schultz and Peterson (1995) examining pre-existing anxiety disorder as a potential factor in the emergence of sex differences in MDD appears to be the first study that addresses the importance of this comorbid pairing. Breslau et al. claim that Nolen-Hoeksema et al. (1994) focused primarily upon the emergence of sex differences in MDD from personality characteristics, learned helplessness, and coping styles. Breslau et al.'s findings also supported a female preponderance in

depression, although the sex differences found were in MDD comorbid with anxiety disorder, and a history of anxiety disorder accounted for a large part of the observed sex differences in MDD.

The high incidence of anxiety recorded for females early in the lifespan may be an important factor in explaining women's higher risk for, and later development of, MDD. Wilhelm, Parker, and Hadzi-Pavlovic (1997) report rates nearly identical to Breslau et al.'s (1995), and they contend also that the greater reporting of anxiety together with higher Neuroticism scores in women could be key factors contributing to the female preponderance in depression. Thus, convincing findings may be those that distinguish depression from other overlapping constructs, and because of the depression and anxiety comorbidity, the most powerful designs should measure both (Kendall & Flannery-Schroeder, 1995; Tennen, et al., 1995).

General Problems Associated With Sex Difference Research

Conducting research on sex differences can be controversial. Research focusing on differences between the 'sexes' has encompassed many different conceptual bases but currently this type of research tends to view 'sex' as a 'social category' (Ashmore; cited in Pervin, 1990). One controversial issue concerns overlooking the contextual applicability of findings. Theory can often be disconnected from life experiences and values. Another controversial issue concerns the reporting of small sex differences. It has been argued that these tend to reinforce negative gender stereotypes and hinder equality (Eagly, 1995; Hyde & Frost, 1993; Hyde & Plant, 1995; Jacklin, 1992; Quadrio, 1994).

In relating her findings of sex differences in depression to her 'response style' theory Nolen-Hoeksema (1990) has been criticised for ignoring potentially important variables like ethnicity, class, professional status, and sex orientation with gender (Brown, 1992). However, even the term 'gender' can be seen as imprecise when much variation occurs within groups of individuals defined in this way. Most researchers consider that the term 'sex' refers to the physical characteristics of males and females, and that the term 'gender' refers to the masculine and

feminine behaviours that emerge through social construction -- hence anything from conception and birth onwards is amenable to influence (Bebbington, 1996). It is difficult to find any neutral ground when conducting sex difference research because bypassing this domain may prompt accusations of ignoring sex differences. In the present study, the terms women, men, male, female, sex, and gender differences, are inclusive of the major gender characteristics observed in New Zealand society.

Sex Differences -- Fact or Artefact?

Artefactual influences may confound the sex differences in depression rates and some of these influences include the Diagnostic Interview Schedule (DIS), caseness threshold, recall and interviewer differences, acknowledgment of depressive symptoms, differences in experiencing and reporting stress, poverty, and kinds of symptoms.

The DIS.

The DIS is a fully structured interview developed to make *DSM* diagnoses for the 'National Institute of Mental Health' (NIMH) to use. It is considered the best measure available for cross-cultural collaborative study (Robins, Helzer, Ratcliff & Seyfried, 1982; Wells et al., 1989). However, recent reviews have highlighted a number of deficiencies in the DIS. Firstly, Bourke's (1986; cited in Wilhelm & Parker, 1994) review of the DIS concluded that longitudinal studies and comparison with external criteria for validity were necessary. Secondly, Tennen et al. (1995) argue that the DIS does not assess all depressive subtypes, nor disorders in remission, nor those that are borderline. Thirdly, different diagnostic outcomes regarding mood disorders have emerged when different interviewers examine the same participants (Weary, Edwards & Jacobson, 1995). Fourthly, Wilhelm and Parker (1994) have suggested that the DIS may be susceptible to caseness threshold influences and they found that lifetime cases were diminished when the caseness threshold was raised to exclude minor depression. If the caseness threshold is under-represented

then the risk of suicide, maladaptive response, and depressive experience can increase. If the caseness threshold is over-represented then inaccurate estimates for the rates of MDD and for the sex differences in MDD can occur. Thus, there are numerous controversial issues regarding the interpretation of population surveys (Oakley-Browne, 1995). These issues may hinder the accuracy of reported estimates for mood disorders.

Recall and interviewer differences.

Wilhelm and Parker's (1994) longitudinal study (10-years) found artefactual influences in lifetime rates of depression arose from interviewer differences and 'recall' of the events over long periods of time. They assessed depression in a select sample at three intervals (including intake and conclusion). Although intake data were consistent with women's preponderance in depression, men tended to 'forget' episodes whereas women tended to 'remember' episodes. When the data were corrected for recall and interviewer differences, Wilhelm and Parker concluded that sex differences were slight but the instability effects (i.e., 'passage of time' effects, reporting biases, and varying definitions of 'caseness') could challenge rates from other epidemiological studies. This may still be the case. Young, Fogg, Scheftner, Keller and Fawcett's (1990) data supported a sex difference in rates of MDD but no general trend for women to remember or report more symptoms; they found a sex difference in symptom count emerged only after three symptoms. Women had a greater number of associated symptoms only at higher symptom levels, suggesting a female preponderance in depression above a diagnostic threshold; a finding similar to Weissman and Klerman's (1977). These symptom threshold factors may relate to women's hormonal and psycho-social experiences which possibly exacerbate depression-related symptoms.

Acknowledgment of depressive symptoms.

Weissman and Klerman (1977) have suggested that the female preponderance in depression is an artefact of women's frequent help-seeking behaviour in reporting stress resulting in their reaching 'caseness'

threshold for MDD more frequently than men. Factors such as inconvenience, perceiving depression as 'feminine', and public exposure may cause men to under-report. Hence, these factors may result in the overestimation of women's depression rates even though both groups may experience recurrent depressive symptoms. Nolen-Hoeksema (1987) concluded that there is no consistent support for the different acknowledgment hypotheses, yet women still experience more depression than men.

Empirical evidence shows that stressful events occurring before the onset of clinical depression may serve as precipitators of depression (Bebbington, 1996; Kessler, 1997; McGrath et al., 1990). Nolen-Hoeksema (1987) concluded that because no consistent sex differences in reports of stress have appeared, women do not experience, report, or evaluate stressful events to a greater extent than men. Life events and depression are discussed more fully in the section on psycho-social explanations. A study by Ullenhuth and Paykel, (1973a; cited in Bebbington, 1996) found that even with similar stress levels, women report a greater number of symptoms than men; a finding consistent with women having a lower threshold and experiencing more symptoms and stress, perhaps due to their societal status. Longitudinal research may show whether symptom intensity is related to more chronic depression from on-going factors (e.g., poverty, etc.) rather than single events (McGrath et al., 1990; Weissman & Klerman, 1977). Researchers have yet to explain fully the sex differences in stress responsiveness (McGrath et al., 1990).

Poverty.

Poverty may be a considerable contributory factor for women's preponderance in depression. However, Nolen-Hoeksema (1987) argues that the female preponderance in depression does not arise simply from income differences. There are substantial income differences between men and women in the same occupation in the public sector, and women occupy undervalued and unpaid roles as long-term caregivers in the private sector. Clarke and Jensen's (1997) study found support for a sex difference in depression and income; women of low socio-economic status

experienced greater levels of depression than men of high socio-economic status.

Baslow (1986; cited in Nolen-Hoeksema, 1990) reports that women have received 60 cents for every \$1.00 men have received for the last thirty years. In the United States, single women and children constitute two-thirds of those defined as 'poor' and their poverty arises from the economic burden of child-raising and a disadvantaged labour-market status (Pearce, 1993; cited in Lott, 1994). In New Zealand (which has no defined poverty line), over half of all families comprise single parents (87% women) and several children (Rochford, Pawakapan, Martin & Norris, 1992; cited in Smith, 1992). Finally, Wu and DeMaris (1996) found that family-based strains and economic hardship were significant predictors of higher distress in women and that sex differences in depression were accounted for by these chronic strains. Of course, financial constraints might plausibly hinder opportunities to engage in a wide variety of coping responses. Thus, although the female preponderance in depression may not arise simply from income differences, as Nolen-Hoeksema (1987) argues, an 'income-related-gender-link' could be a strong contributor to women's more frequent and prolonged depressive experiences.

Kinds of symptoms.

Research indicates that men outnumber women in the rates for alcoholism (Weissman & Klerman, 1977; Wells et al., 1989). Alcohol consumption is a more acceptable form of behaviour for men than it is for women. A review by Malteos (1988; cited in Lott, 1994) found that women were reluctant to acknowledge their alcoholism perhaps due to this social intolerance. Men's greater alcohol consumption may act as a support mechanism and mitigate their depressive feelings (Weissman & Klerman, 1977). Thus, Weissman and Klerman (1977) have suggested that alcoholism maybe the male equivalent of depression. It is unclear which precipitates the other, alcoholism or depression, but both may be maladaptive responses to difficult life circumstances and demanding social responsibilities that result in sex differences in vulnerability to alcoholism and depression (Nolen-Hoeksema, 1987; Weissman &

Klerman, 1977). An equivalent gender susceptibility to depression could result in men drinking to 'drown their sorrows' and represent a different expression of the same disorder or feelings.

Substance-related disorders frequently co-exist with mood disorders. Research indicates that, relative to alcohol dependence in men, alcohol dependence in women is strongly associated with a coexisting diagnosis of depression (APA, 1994). Genetic data for men concerning mood disorder and alcohol dependence suggest that there are two genetically distinct disease processes (APA, 1994). However, Winokur and Clayton (1967; cited in Nolen-Hoeksema, 1987) have previously suggested that alcoholism and depression are different manifestations of the same familial genetic disorder.

If the sex differences in rates for depression and alcoholism are accurate, then sex differences in social expectations for gender behaviour may be crucial from an aetiological viewpoint. Recent studies confirm a sex similarity in rates for alcohol abuse (Brozan, 1985; cited in Lott, 1994; Feehan et al., 1994; Litt, 1992; cited in Lott, 1994). However, at the same time alcohol consumption may have also increasingly become part of relaxation and daily life in New Zealand together with a more relaxed attitude by women towards their own alcohol consumption.

Main Categories of Explanations

There are many categories of explanations regarding the aetiology of sex differences in depression but the empirical focus has mostly centred on biological, psycho-social, and cognitive explanations. The former two are presented in this section and the latter is presented in Part 2, along with Nolen-Hoeksema's 'response style' theory. Biological studies have been active areas of research but currently information from these types of studies relate to mostly brain physiology and pharmacology rather than aetiological information (Campbell, Marsden, & Powell, 1994).

Historically, explanations for women's depression and anxiety were related to their supposedly 'inferior' anatomy; their emotionality was considered to be a function of an excitable nervous system (perceived as a gift occasionally; Nolen-Hoeksema, 1990). Weissman and Klerman (1977)

suggest that comprehensive theories must include biological factors for the female preponderance in depression.

The psycho-social perspective includes many possible contributors towards the observed sex differences in depression and disorder. However, the lack of a firmly integrated and well-described process (empirically supported) for psycho-social explanations for women's preponderance in depression should not preclude their importance as possible contributors (Nolen-Hoeksema, 1987).

Biological explanations.

Two influential factors comprise the biological explanations for women's preponderance in depression: Women's reproductive-related events and a genetic predisposition.

With regard to moods and MDD, these two areas of research remain controversial. Inconsistencies across studies in methodological design and measurement continue to produce inconsistent findings. Bebbington (1996) has commented that hormonal explanations for women's preponderance in depression reflect biological origins when clearly women face a universal cultural disadvantage. However, women's reproductive-related events together with this universal disadvantage occur in tandem with peak periods for their rates of depression across their fertile years. Therefore, overlooking reproductive-related events in research on depression could be considered haphazard investigation of likely potent sources that may interact with women's life experiences and produce the observed sex differences in MDD.

Various methodological difficulties hinder the assessment of a depressed mood that is not related in some manner to women's reproductive-related events. Concerns surround whether a depressed mood is representative of MDD or is linked to the hormonal phases women experience. Complex endocrine syntheses complicate the identification of a specific hormone(s) (Bebbington, 1996; Brooks-Gunn & Warren, 1989; Endicott, 1993; McGrath et al., 1990; Weissman & Klerman, 1977). The female preponderance in depression has been explained as emerging from the presence of depressed moods that are related to the premenstrual cycle, pregnancy, postpartum phase (which differs from

'maternity blues' and 'postpartum psychosis'), menopause, and other hormone interaction, specifically estrogen and serotonin (5-HT) -- a discussion of these follows.

The menstrual cycle.

Most reviews have concluded that findings from self-report retrospective questionnaires concerning links between the menstrual cycle and depression are inconclusive. The problems identified have tended to revolved around 'recall' (differences between women's daily diaries and retrospective accounts), and 'response bias' (McGrath et al., 1990; Nolen-Hoeksema, 1987). A national survey also found that men and women responded negatively to the expression of menstrual-related symptoms (Milow, 1983; cited in Lott, 1994; Nolen-Hoeksema, 1987). Thus, these factors continue to confound the assessment and measurement of menstrual depressed moods and true MDD.

Nolen-Hoeksema (1987) and Weissman and Klerman (1977) conclude that no definitive conclusions exist for the premenstrual syndrome (PMS) due to problems of population comparability and different measures used across studies. Furthermore, the diagnostic classification of this condition remains controversial.

However, differentiating the severity of depressive symptomatology in relation to MDD is difficult when women's hormones fluctuate every 14 days (MDD symptomatology must be present for 14 days; for an informative review see Endicott, 1993). In a reanalysis of previous data, Nolen-Hoeksema (1987) showed that a 40% incidence of premenstrual depression may account for most of the excess depression in women! Menstrual hormonal changes cause minor mood changes in all women which they may ignore, consider normal, or adapt to (Mondimore, 1993). Thus, depression can result from an exacerbation of underlying anxiety, or as a consequence of physiological processes, or as a learned interpretation of altered body states that can occur during hormonal phases; Lott, 1994). Investigators claim that some women have a biological vulnerability for mood disorders that is triggered by menstrual cycle changes, and that unidentified metabolites of gonadal steroids may account for dysphoria premenstrually (Backstrom, 1992;

Rubinow, 1992; Steiner, 1992; all cited in Endicott, 1993). Finally, Endicott (1993) concludes that evidence exists to support the hypothesis that the premenstrual phase raises vulnerability for MDD for a subset of women.

Pregnancy.

Little research exists concerning pregnancy and depression. Assessment difficulties arise due to a lack of validation for the BDI as well as its sensitivity to the anxiety and depression comorbidity in these population groups (Beck, 1992; Coverdale, McCullough, Chervenak, Bayer, 1996). Antepartum depression can predict post-partum depression and maximum vulnerability occurs during the first trimester where increased suicide attempts have been reported (Coverdale et al., 1996). Suicide completions during pregnancy are uncommon (Coverdale et al., 1996). However, New Zealand in comparison to other western countries has high lifetime rates of suicide attempts (Weissman et al., 1993), abortion and illegitimate births (Owens, 1992), that occur during young adulthood. These are major life events for women that occur during the peak periods of their preponderance. Thus, pregnancy-related factors (e.g., issues concerning loss) maybe reflected in the rates observed for the female preponderance in depression in New Zealand.

Postpartum.

Postpartum depression is similar to minor depression and MDD. Several reviews support an increased risk for MDD during pregnancy and post-partum periods (Endicott, 1993; McGrath et al., 1990; Mondimore, 1993; Nolen-Hoeksema, 1987; Weissman & Klerman, 1977). Increased risk can arise from biological, stress, and personality factors. Nolen-Hoeksema (1990) favours psycho-social and stress factors as predispositional influences from evidence reported from studies with adoptive mothers. Investigators claim that hormone levels change rapidly post-partum and have concluded that findings from studies of depressed mood during this period are inconclusive (Hopkins, Marcus & Campbell, 1984; cited in Lott, 1994; Weissman & Klerman, 1977).

Menopause.

Menopause ('Involutional Melancholia') has been excluded from the *DSM* due to a lack of evidence for a unique, endogenous type of depression in women during the menopause years (Nolen-Hoeksema, 1987). Perhaps the diagnostic exclusion also reflects historical changes in societal expectations and women's menopausal experience. Many women relish their new freedom from the hormonal pendulum. Reviewers conclude that despite diverse methodology, lack of definition, adequacy in follow-up and measurement instruments, no solid support exists for a causal link between menopause and depression (Nicol-Smith, 1996; Nolen-Hoeksema, 1987; Weissman & Klerman, 1977; Wittchen et al., 1994).

Other hormonal influences.

Endocrine syntheses are complex and the investigation of hormone contributors to mood states is difficult and expensive. Hormones may be hormonally active or just freely circulating (Vernon, 1994). Studies on sex differences in cognitive abilities have found evidence for estrogen having a mediatory and selective effect in women over the menstrual cycle; and, methodological problems aside, some investigators suggest that the evidence that sex hormones contribute to cognitive variation is substantial (Halbreich & Lumley, 1993; Kimura & Hampson, 1993).

Nolen-Hoeksema (1987) and Weissman and Klerman (1977) suggest that most findings from studies reporting an association between the use of oral contraceptives and depression (the steroid action inhibits synthesis of biogenic amines in the central nervous system and can produce depression) represent small effect sizes. However, Endicott (1993) reviewed the evidence for an oral contraception and depression association and found that women can develop severe dysphoric mood and behavioural patterns resembling premenstrual phase symptoms while taking sequential estrogen and progestogens. Thus, for a subset of women, the issue of severity of mood remains problematic.

The amine theories for mood disorders have involved support for serotonin (5-HT), norepinephrine (NA), and dopamine, but Nolen-

Hoeksema (1987) concluded that the findings overall were inconclusive. However, despite artefactual influences, well-documented evidence exists for a 5-HT and mood relationship (Page, 1968; cited in Lopez-Ibor, 1988). Serotonin competes for brain entry and serotonergic systems mediate fundamental aspects of physiology (i.e., sleep, eating, libido, mood, aggression, impulsivity, temperature, respiration, and cardiovascular activity; Jacobs, 1994; Jacobs & Azmitia, 1992; Lopez-Ibor, 1988). Serotonin may be a contributory factor associated with the sex differences in depression due to its complex activity with estrogen in women that can result in imbalances during hormonal periods in turn affecting mood (Elkins, 1995; Nolen-Hoeksema, 1987).

Serotonin synthesis requires tryptophan and vitamin B-6, however, estrogen can block vitamin B-6 action and cause its elimination (Elkins, 1995). High estrogen levels are required for this to occur. Women who use oral contraception, are pregnant, or premenstrual, incur rising estrogen levels which can create a tryptophan or vitamin B-6 shortage and lead to depressed mood (Elkins, 1995). Additionally, women's exposure to pollutants and products that mimic estrogen action may raise their estrogen profile. Evidence from studies indicate that both vitamin B-6 and 5-HT are extremely low in women with premenstrual symptoms (Elkins, 1995). Western women experience massive pressure to conform to a body-image with an adipose tissue quotient well below normal. Excessive dieting and exercise to achieve the body-image usually means that tryptophan containing foods (e.g., milk, bananas, and bread) are eliminated first. Thus, women's reproductive-related events and their complex chemical interaction combined with nutritional factors can contribute to a state of hormonal disequilibrium and perhaps cause depressed moods.

Genetic predisposition.

Women's preponderance in depression has further been explained as emanating from a greater genetic predispositional vulnerability. Several reviews concerning a genetic predisposition for affective disorders found there is a substantial genetic transmission for major affective disorder, however, there is no critical evidence for how the

genetic transmission contributes to the observed sex difference in depression (APA, 1994; Bebbington, 1996; Mondimore, 1993; Nolen-Hoeksema, 1987; Plomin, Owen, McGuffin, 1994; Weissman & Klerman, 1977). Overall, Nolen-Hoeksema (1987, 1990) concludes that studies on genetic predispositional factors like the 'X-Linkage' and 'Liability Threshold' are inconclusive.

The 'X-Linkage' hypothesis involves locating the relevant locus on the X chromosome. As women have two X chromosomes, they may have an increased risk for depression relative to men. However, family-history studies have provided evidence for more father-son pairs in affective disorders; a result that is incompatible with the transmission hypotheses (Nolen-Hoeksema, 1987). Nonetheless, Plomin et al. (1994) suggest that failed replications have occurred due to procedural and interpretive problems rather than to the analytic technology used. Furthermore, linkage studies have been conducted with a presumption that colour blindness and the Xg blood group loci (other means of following transmission) are next to the affective disorder loci on the X chromosome; this presumption has been shown to be incorrect in a comprehensive review by Gershon and Bunney (1976; cited in Weissman & Klerman, 1977). Nevertheless, even for bipolar disorder, gene locus is not general. In some Amish families, bipolar disorder followed strict Mendelian patterns; in other non-Amish families bipolar disorder followed similar patterns, however, other locations on the gene were indicated (Mondimore, 1993).

The 'threshold' hypothesis concerns a subtle interaction between minor genetic abnormalities and environmental variables that lead to sex differences in vulnerability to depression (i.e., women may exhibit a lower liability threshold; Nolen-Hoeksema, 1987). Nolen-Hoeksema found that family history data did not support the influence of genetic factors; rather, environmental factors contributed to the sex differences found. Genetic hypotheses for the female preponderance in depression may depend upon advanced techniques to accurately isolate the genetic transmission that results in sex differences in the same disorder.

Psycho-Social Explanations

There are many explanations within the psycho-social domain that have attempted to account for different personality development in men and women that may lead to different disorders. Genes and culture interact and often it is cultural, psycho-social, and cognitive factors that can work in opposing, ignoring, or exaggerating biological differences (Beall & Sternberg, 1993). Bebbington (1996) suggests it is difficulties that emerge for women from the overlap between roles, social support, and psychological attributes that are strong epidemiological factors in their preponderance for depression in times of rapid social change. Neither cognitive styles, nor life events, can predict mood change (Needles & Abraham, 1990). Singular explanations and prevalence rates alone cannot adequately explain the individual variance and epidemic magnitude of the problem and women's preponderance in the rates of depression (Nolen-Hoeksema, 1987; Weissman & Klerman, 1977).

Psycho-social variables and cognitive processes emanate from different theoretical domains but should not be viewed as distinct and isolated factors in explaining women's preponderance in depression -- they interact to produce positive and negative implications for female mood experiences. The following example highlights the interconnection: Female child sexual abuse is a severe life event that could result in a dysfunctional personality, disturb individual identity and interfere with cognitive content and processing. Conversely, this same life event and ensuing personality trauma could be ameliorated by social support and individual characteristics that would not result in on-going mental dysfunction as Mullen, Martin, Anderson, Romans, and Herbison (1993) have recently found. Thus, some of the issues discussed in this section that could help explain the female preponderance in depression include: Sex differences in personality traits, sex differences in personality development, early gender identity, female child sexual abuse, marital status, role responsibilities, and stressful life events.

Sex differences in personality traits.

Investigating sex differences in personality traits uncovers many issues that remain controversial today (e.g., definition, nature-nurture, unconscious processes, time, state/trait, and change; Monte, 1995; Pervin, 1990). Thus, acknowledging personality traits arise from both genetic and environmental influences and are reasonably established by adolescence, there is some empirical support for sex differences on some commonly accepted personality dimensions.

Dimensions related to sex differences in mood are Neuroticism, Extroversion, Positive Affect, and Negative Affect; Eysenck, 1986; Tellegen, 1982; both cited in Pervin, 1990). These dimensions have several descriptors that include core features of depressive experience (Eysenck, 1994; Eysenck & Eysenck, 1964; Lester, 1995; Levy, 1983; cited in Klein et al., 1993). Dimension descriptors within Neuroticism and Negative Affect include 'anxious', 'depressed', 'emotional', 'low self-esteem', 'moody', and 'distressed'; these tend to align with women's experience of depressed mood and MDD. Conversely, Extroversion and Positive Affect dimension descriptors concern 'activeness' and 'alertness'; these tend to align with men's lower levels of depressed mood and MDD. Additionally, the dimensions of Neuroticism and Negative Affect and the dimensions of Extroversion and Positive Affect tend to align with those Nolen-Hoeksema (1987) has described as gender-specific ways of coping in response to depressed moods. Significant associations have been found in personality studies (including cross-cultural studies) between Neuroticism and the limbic system, and between Extroversion and arousal. Moreover, women score higher than men on Neuroticism and lower on Extroversion, although both decline significantly with age (Eysenck, 1976; cited in Pervin, 1990; Gale & Eysenck, 1992; Zuckerman, 1995). However, as Klein et al. (1993) have pointed out, such descriptors may not be distinct, linked to basic aspects of personality and mood, accurately label phenomena, and may reify non-existent phenomena through repetition.

Nolen-Hoeksema (1987) contends that the female preponderance in depression is caused by the stable personality trait rumination. Nolen-Hoeksema et al. (1994) argue that women's ruminative style of coping is

not simply another name for Neuroticism, Negative Affect, or even private self-consciousness. They argue that their correlational studies demonstrate that ruminative coping is a mechanism that links these global traits to depression. Furthermore, Nolen-Hoeksema et al. report that ruminative coping is a better predictor of temporal changes in depression than these global variables and may mediate the relationship between Neuroticism, or private self-consciousness, and depression.

Teasdale (1988) contends that Neuroticism is associated with increased risk for recurring depression. Furthermore, Wilhelm et al. (1997) found that women had consistently higher mean Neuroticism scores but not depression scores; they claim that women's greater reporting of anxiety and higher Neuroticism scores could be a critical factor contributing to the female preponderance in depression. However, Wilhelm et al. suggest further research is needed in order to ascertain whether the association between anxiety and depression reflects a 'general neurotic syndrome' as Andrews, Stewart, Morris-Yates, Holt, and Henderson (1990) have speculated. Andrews et al. (1990) have argued that the concept of a 'general neurotic syndrome' depends partly on the presence of certain predisposing personality factors (i.e., locus of control, and a measure of Neuroticism). Studies that have been conducted by Andrews et al. using twins and clinical samples have found no evidence for the inheritance of specific disorders over and above the inheritance of a general liability has measured by Neuroticism.

Thus, the dimension descriptors of Neuroticism and Extroversion tend to work in a gender-related manner for possibly biological and sociological reasons. Bearing in mind Klein et al.'s (1993) comments regarding personality dimensions and their associated descriptors, further investigation is needed to ascertain how Nolen-Hoeksema's (1987) concept of rumination relates to Neuroticism, its links with depression and anxiety, and whether rumination is a replication of other self-regulatory concepts that have been linked with depression.

Sex differences in personality development.

Many reviews concerning sex differences in personality characteristics have found that any differences are small ones (Maccoby & Jacklin, 1978; cited in Denmark & Paludi, 1993; Nolen-Hoeksema, 1990). Nancy Chodorow has argued that women's depression-prone personality emerges from their self-concept being primarily concerned with 'self-in-relation-to-others' (Nolen-Hoeksema, 1990; Quadrio, 1994; Weissman & Klerman, 1977). She argues that, whereas boys tend to develop a separate self-concept, girls tend to develop a relationally-directed self-concept. Thus, different self-concept development can result in different moral priorities, styles of relatedness, helplessness, self-derision, and depression (Gilligan, 1982; Quadrio, 1994). Furthermore, these differences may produce sex differences in cognition and behavioural style. Roberts and Nolen-Hoeksema (1990; cited in Nolen-Hoeksema, 1990) have found that men more than women tend to engage in self-enhancing biases which are associated with reduced risk for depression. This may be an indication of sex differences in gender socialisation and cognitive style influence.

Nolen-Hoeksema (1990) reviewed studies concerning women's dependency (linked to self-esteem and self-evaluation) and concluded that men and women were equally emotionally invested in their relationship with each other but differences emerged regarding their areas of concern about the relationship and household organisation. John Bowlby has described attachment as a healthy human need and a source of strength but Jack (1991) reported that depressed women commonly reported a 'loss of self' in the context of intimate relationships. Therefore, assigning women's preponderance to mostly dependency-related issues could overlook other variables (e.g., areas of concern regarding the relationship and household organisation) involved in the context of intimate relationships. Of course, early construction of gender identity may set in place strong stereotypes that could contribute to the sex differences in depression.

Early gender identity construction.

Gender is an important factor in the organisation of individual self-concept and learning gender-specific beliefs and attitudes about ways of being in the world -- these can change within societal, family, economic and political climates (Bem, 1974; cited in Nolen-Hoeksema, 1990; Lott, 1994; Pervin, 1990; Quadrio, 1994; Spence, 1985; cited in Beall & Sternberg, 1995). The empirical evidence supports the major impact of a negative self-concept in the aetiology and maintenance of depression (Beck, 1976; Hammen, 1992; Rutter, 1992; Seligman, 1975; both cited in Ruble et al., 1993).

Ruble et al.'s (1993) comprehensive review focused on studies of gender socialisation in children under the age of 13 in the development of sex differences in self-evaluation and depression. Ruble et al. found support for differential and reciprocal gender socialisation processes (i.e., parents, peers, teachers, caregivers, coaches, etc.) that impact upon the construction of gender identity. Whereas girls tend to be encouraged to develop feminine attributes that have been found to be associated with depression (e.g., dependency, nurturing, passivity and helplessness), boys tend to be encouraged to develop masculine attributes that have not been found to be associated with depression (e.g., independency, activity and self-confidence; McGrath et al., 1990; Nolen-Hoeksema, 1987, 1990; Ruble et al., 1993).

Nolen-Hoeksema (1987) has speculated that women's ruminative and men's distractive styles of coping emanate from encouraging feminine and masculine stereotypes. However, the developmental progression (cognitive and behavioural) of how these gender stereotypes eventually culminate in the observed female preponderance in anxiety and depressive disorders, and the observed male preponderance in aggression and substance abuse disorders, requires longitudinal research.

Sexual abuse.

Middle childhood is also a period where sexual abuse can occur and girls suffer victimisation more commonly than boys (Finklehor, 1979; cited in Nolen-Hoeksema, 1990). Female child sexual abuse is an under-

researched area and could be an important contributing factor to women's preponderance; clinical findings support a sexual abuse and depression association, although investigators caution against inferring causality (Bebbington, 1996; Browne & Finklehor, 1986; Bushnell, Wells & Oakley-Browne, 1992; Carmen, Rieker & Mills, 1984; cited in Nolen-Hoeksema, 1990; Cutler & Nolen-Hoeksema, 1991; Koss, 1990; cited in Ruble et al., 1993; McGrath et al., 1990; Mullen et al., 1993; Trichett & Pulman, 1993; cited in Ruble et al., 1993).

Similar to alcohol abuse being proposed as the male equivalent of depression, the findings from studies concerning sexual abuse are supportive of a sex difference in symptoms too; women preponderate in depression and men preponderate in substance abuse and aggressive behaviour (Cutler & Nolen-Hoeksema, 1991; McGrath et al., 1990; Nolen-Hoeksema, 1990).

Romans-Clarkson, Walton, Herbison and Mullen's (1990) large study of New Zealand women found that childhood sexual abuse was strongly associated with psychiatric morbidity levels. However, Mullen et al. (1993) have found that disadvantage and adversity (in context where abuse occurred) were major contributors towards psychiatric morbidity along with sexual abuse. Moreover, these investigators found that some women did not experience long-term mental health problems. Precisely what factors ensured that these women did not develop long-term mental health problems is unclear.

Marital status.

The empirical evidence indicates marital status has a less protective effect on women than it has on men (Bebbington, 1996; Weissman & Klerman, 1977; Wu & DeMaris, 1996). Unmarried women have lower rates of mental illness than unmarried men, however, married women have higher rates of mental illness than married men (Smith, 1992). Weissman and Klerman (1977) suggest that this shows women's preponderance is not entirely due to women's biology, but reflects conflicts within the traditional female role. Traditional views of marriage are deeply embedded in New Zealand society. A wide gap tends to exist

between equality rhetoric and the 'grass-roots' reality in household organisation, relationship commitment, and family nurturing.

Roles.

Women's roles and responsibilities have been linked to the female preponderance in depression. The following discussion will focus on role-conflict/overload, although having too few roles (i.e., the 'scarcity hypothesis') has also been associated with depressed mood.

Many New Zealand women work outside the traditional domestic roles (e.g., wife and mother) that Truby King, the founder of the New Zealand Plunket Society suggested women be trained for (Olssen & Levesque, 1978; cited in Smith, 1992). Working outside the household can lead to emotional and physical deterioration due to role-conflict/overload from concerns about organising reliable childcare, gaining high financial remuneration, and receiving sufficient support in running the household (Brody, 1985; Cantor, 1983; both cited in Nolen-Hoeksema, 1990). Research has indicated that working paid sector women have increased self-esteem and lower levels of depression than women housebound with children, however, these benefits tend to be fragile due to private sector obligations tending to increase illness to greater levels than those reported by men (Aneshenel, Frerichs & Clark, 1981; Haw, 1995; both cited in Bebbington, 1996; Hochschild, 1989). Some studies have found that men who are highly committed to the parental role were just as likely as women to be depressed and some men were unable to sustain the housebound care-giving role and returned to work (Russell, 1982, 1987; cited in Smith, 1992; Smith, 1992; cited in Champion & Power, 1995).

New Zealand women are involved in paid public sector work at levels not observed before, however, attitudes to working women are mostly negative and flexible work patterns have been slow to emerge (Smith, 1992). Irrespective of working status, women still bear the brunt of domestic responsibilities in the New Zealand context -- men tend to 'lend a hand' or 'help' with household tasks (Novitz, 1990; cited in Smith, 1992). Even children's perceptions have reflected traditional stereotypes despite their mothers being in paid work (Smith, 1992). Glass and Fujimoto (1994; cited in Bebbington, 1996) found that more hours spent in

housework increased levels of depression. Hochschild's (1989) study found that, compared to men, women over one year actually worked an extra month of twenty-four hour days -- she termed this 'the double shift'.

Thus, role conflict/overload are potent sources of stress and Litwin (1986; cited in Quadrio, 1994) has commented that attachment and autonomy can constitute a double bind for women. Nonetheless, individual differences may affect the ability of women to sustain work commitments and resist levels of anxiety and depression (Froberg, Gjerdingen & Preston, 1986; cited in Bebbington, 1996; Gove & Tudor, 1973; Repelli & Crosby, 1984, both cited in Nolen-Hoeksema, 1990; Wu & DeMaris, 1996). However, sex differences in depression have been found even within a Kibbutz environment and these findings are contrary to this context being understood as one where women do not experience role-conflict (Levar et al., 1991; cited in Bebbington, 1996).

Thus, findings tend to support the hypothesis that regardless of gender the housebound-caregiving role is depression-related. Furthermore, regardless of where women work, the traditional gender expectations about domains of work and responsibilities remain.

Life events.

The multiplicity and severity of life events are a further area that has been linked to the female preponderance in depression. The empirical evidence supports the hypothesis that an excess of life events tends to occur prior to the onset of depression (Allgood-Merten et al., 1990; Bebbington, 1996; Brown & Harris, 1989; Brown, Harris & Hepworth, 1994; Carpenter, 1992; Champion & Power, 1995; Clarke & Jensen, 1997; Frank et al., 1996; Hammen, 1992; Kessler, 1997; McGrath et al., 1990; Spangler, Monroe, & Thase, 1996). Brown and Harris (1989) support the life events and depression hypothesis but suggest the relationship depends on whether they have meaningful implications for each other. Their findings amongst depressed women showed two social factors concerning major loss and disappointment increased depression risk. Goodyear and Altham (1991; cited in Bebbington, 1996) reported that girls in middle childhood had higher lifetime rates of life events involving social losses than boys and suggest that this may indicate a

possible female skew in provoking agents for later depression. A review conducted by Ruble et al. (1993) concluded similarly that girls may be more vulnerable to depressive experiences that occur when they undergo periods of transition that involve high levels of stress.

Clarke and Jensen (1997) have found depression and stressful life events were more prevalent in their New Zealand sample than those from a USA sample. They suggest these greater depression rates are related to the occurrence in recent times of more stressful life events in this country than the USA. Bebbington (1996) describes life events as 'occasion setters' to attributional styles and MDD that provide a 'stress incubation' period where their additive effects wear individuals down. Bebbington found support for women being more susceptible to life events and adversity than men, but not as a complete explanation for women's preponderance in depression.

Most investigators have concluded that collaborative research is needed to match the content of stressful life events and chronic stress to self-identity, values, sex roles, and interpersonal factors. Thus, collaborative research would increase the knowledge base concerning depression rather than simply restating that MDD is linked to severe life events and stress (Hammen, 1992; Kessler, 1997).

Johnson (1992) investigated gender and mood as mediators of the relationship between attributional style, daily life events, hopelessness, and depressive symptoms. Johnson found the interaction of attributional style and daily life events predicted change in hopelessness in women but not in men. These findings are consistent with different types of life events inducing differentiated affective responses in women and men due to gender differences in the interpretation of life events (Whiffen & Gotlib, 1989; cited in Johnson, 1992).

Finally, a recent study found that depressed women were more likely to have experienced negative interpersonal life events prior to the onset of depression than were depressed men (Spangler et al., 1996). In contrast to the primacy of cognitive variables that Nolen-Hoeksema (1990) and Teasdale (1988) have given as explanations for the sex differences in depression, Spangler et al. found support for sex differences in stress variables. It is possible that the type and seriousness of a precipitating life

event may prolong a depressed mood to a greater extent than, say, the use of a ruminative coping style.

Summary of Part 1.

The focus of the present study is on adulthood major depression as defined in the *DSM-IV*. Depression is a chronic, recurrent, often fatal disorder that has reached epidemic proportions in a period of rapid socio-historical change in western society. Depression works concomitantly and precursively with other disorders, and may arise from many factors.

Culture influences individual experience of depression and cross-cultural collaborative research efforts have provided comparative information on prevalence and possible aetiological variables. Depression is increasing in developing nations and future research may highlight any association between socio-historical change and societal affluence and depression. New Zealand has one of the highest rates of MDD according to cross-national findings.

Depression research recommendations remain unheeded and methodological problems continue to hinder the accuracy of prevalence rates for MDD. Two issues that remain controversial concern a lack of consistency in the use of BDI cutoff scores and whether depressed mood in student samples is qualitatively different from psychiatric populations. Three studies where Nolen-Hoeksema and colleagues have investigated the 'response style' theory and sex differences in depressed mood have been criticised on methodological grounds (i.e., no anxiety control, and a lack of multiple assessment periods and methods).

The evidence for sex differences in disorders from cross-national findings indicate a female preponderance in anxiety and affective disorders and a male preponderance in substance abuse disorders. The female preponderance in depression is one of the most robust findings that has emerged from epidemiological surveys.

The female preponderance in depression peaks in early adulthood and declines in late adulthood. Sex differences in the rates of depression emerge at the earlier age of 10, rather than at 15 as was previously thought. The female preponderance in depression appears to be

stabilising whereas men's rates of depression appear to be rising. There is no research to support the notion that the former relates to increased social opportunities, nor that the latter relates to an increased use of a ruminative coping style. The rates of suicide provide an indirect index of the seriousness of depression. Suicide has increased cross-nationally and women tend to be 'suicide-attempters' and men tend to be 'suicide-completers'.

Sex differences in depression have not been found in some non-representative groups. However, less severe levels of depression and anxiety were often the foremost disorders amongst women in these groups. Religious faith and highly-valued goals could buffer the overt expression of depressed mood and anxiety states. Nolen-Hoeksema et al.'s (1994) findings that a ruminative coping style prolonged depressed mood in a bereaved population should be tempered by two issues. Firstly, the *DSM-IV*'s explanation that the type of depression in this population differs from MDD, and secondly, the use of a singular measurement instrument to assess coping style (i.e., only the 'ruminative' subscale in the RSQ) may not adequately measure overall coping style.

There are comorbidity issues in depression research that may confound the accuracy of prevalence rates. There is a female preponderance in the rates for minor depression and a high transitional association occurs between minor depression and MDD. Some preliminary data supports the idea that a depressive personality disorder may underlie a mood disorder. However, it is the role anxiety plays in MDD that is problematic. Sex differences in MDD have been found to arise from prior history of anxiety disorder and stress variables and not solely from primarily coping styles, contrary to what Nolen-Hoeksema (1987) has suggested. Researchers suggest that more convincing findings may emerge from powerful research designs that measure both anxiety and depression.

Conducting research that looks at differences between the sexes tends to evoke controversy but it is difficult to find any neutral ground as even the term 'gender' can be seen as imprecise when much variation occurs within groups of individuals defined in this way.

Artefactual influences may confound the observed sex differences in rates of depression by means of deficiencies in the DIS, recall and

interviewer differences, and the acknowledgment of depressive symptoms. Nolen-Hoeksema (1987) has claimed that sex differences in depression do not arise simply from income differences. However, an 'income-related-gender-link' could be a strong contributor to women's greater depressive experiences than men's. The hypothesis that alcohol abuse and depression are sex different expressions of disorder remains possible but currently there is no conclusive evidence to support this hypothesis.

Nolen-Hoeksema (1991) points out that studies of reproductive-related events are correlational only and thus cannot be used to infer a causal relationship between hormones and moods. Nolen-Hoeksema's calculations from studies for premenstrual depressed mood were high enough to account for most of the excess depression women experience. Furthermore, women's preponderance in depression is confined to the fertile period of the life-span and a common theme that runs through the literature on reproductive-related events is the issue of severity of depressed mood for some women. Endocrine syntheses are complex and can influence mood and cognition. Women's 5-HT and estrogen interaction is complicated and imbalances that occur during hormonal cycles, together with nutritional and psycho-social factors could produce depression.

Explanations based on a genetic predisposition have been vigorously critiqued, but inconsistent evidence may simply indicate an absence of refined measurement procedures and not the absence of a genetic contribution. Nolen-Hoeksema (1987) has concluded that biological explanations cannot explain the absence of sex differences in depression in some non-representative samples. However, there is some evidence that minor depression, MDD, and anxiety were the foremost disorders amongst women in non-representative samples (Brown & Prudo, 1981).

Many psychosocial explanations for the sex differences in depression receive less research attention because associated variables are difficult to measure and usually require longitudinal research. However, this should not diminish their aetiological importance. The personality dimensions of Extroversion, Neuroticism, Positive Affect, and Negative Affect have been associated with noticeable sex differences in mood

experience. Nolen-Hoeksema et al.'s (1994) claim that rumination is a stable personality trait and not simply another name for Neuroticism or self-consciousness requires more investigation.

Several risk factors for the observed sex differences in depression have been highlighted in studies that cover psycho-social explanations. Firstly, gender socialisation encourages the development of feminine and masculine stereotypes that may set up sex differences in vulnerability towards later depression and other disorders. Secondly, female sexual abuse is a new area of investigation as a possible contributor to the female preponderance in depression. A history of sexual abuse leads to sex differences in expression of disorder -- women experience depression and men engage in substance abuse and aggressive behaviour. Thirdly, marital status and depression are significantly related. Fourthly, studies of the different roles women occupy as possible links to their preponderance in depression have produced mixed results. However, the psychological benefits for working women in the paid sector are fragile due to traditional expectations concerning family nurturing and household organisation. Men and women totally committed to housebound caregiving experience similar levels of depression. Thus, this type of role, rather than gender, may be depression-related. Fifthly, severe life events are significantly related to depression and sex differences in depression have been found in relation to stress variables and not primarily cognitive variables as Nolen-Hoeksema (1987) has suggested.

In reviewing the evidence for sex differences in depression since Nolen-Hoeksema's (1987) article, it is apparent that the female preponderance in depression may not emanate from any one factor or theoretical viewpoint. There are methodological and artefactual influences in the prevalence rates that remain problematic, and the interactive nature of biological and psycho-social factors suggests that integrative explanations that report on evidence between the domains are especially informative. Current research tends towards comprehensive theories that use small sets of variables in order to ascertain their relative contribution to depressive experience. Nolen-Hoeksema's (1987) 'response style' theory comprises a cognitive explanation that focuses on the kind of coping style individuals use in response to a depressed mood.

She proposes it is the 'style' and not the 'content' of negative cognition in coping that is important in the determination of depressed mood duration. Furthermore, that it is the kind of response style that men and women use that determines their experience of depression.

PART 2. EVIDENCE FOR SEX DIFFERENCES IN RESPONSE STYLES TO DEPRESSED MOOD

In this section Susan Nolen-Hoeksema's (1987, 1990) 'response style' theory is presented, followed by discussion of some important factors involved in the theory. Nolen-Hoeksema's (1987) 'response style' theory provides a causal cognitive explanation for sex differences in depression. Brown (1992) reviewed Nolen-Hoeksema's (1990) book, *Sex Differences in Depression*, and found it supported the findings of the 'American Psychiatric Association Task Force on Women and Depression'.

Nolen-Hoeksema's (1987) 'Response Style' Theory

Nolen-Hoeksema has claimed that sex differences in response styles underlie sex differences in depression and other disorders. She has claimed that women's preponderance in depression is due to different coping responses employed by women and states,

"...women's response tendencies toward depression are actually a *cause* of their greater tendency towards depression, whereas men's response tendencies actually lessen their rates of depression".

(Nolen-Hoeksema, 1987, p. 274).

At first glance, this appears quite a sweeping causal statement. Does the empirical evidence support such a strong claim? Nolen-Hoeksema and colleagues at Stanford University have reported sex differences in response styles from their correlational studies but have yet to test the hypothesis within clinical populations. Nolen-Hoeksema proposes that an individual's response to their depressive symptoms or episode (regardless of the event/source -- i.e., biological, sociological, etc.) contributes to the severity, duration, and recurrence of their depression.

Nolen-Hoeksema suggests that women tend to focus inward on symptoms, causes, and consequences of their depression and has labelled this as a 'ruminative', unhelpful response style that can exacerbate and prolong episodes of depression. In contrast, she suggests men tend to

distract themselves from their depressive symptoms and has labelled this as a 'distractive', behavioural style of responding that dampens and relieves their depression. The concept of rumination (e.g., to ponder and meditate) that Nolen-Hoeksema (1987) associates with the sex differences in depression could serve as an explanatory variable if it could be firstly, empirically and conceptually supported to be a process-related variable more typical of women than men, and secondly, be associated with clinically significant levels of depressed mood.

There is some evidence to support the hypothesis that coping styles are associated with the severity and chronicity of moods (Rippere, 1977; Teasdale, 1985). Nonetheless, there are several areas of uncertainty associated with the 'response style' theory. The two main areas of concern relate to: (1) Nolen-Hoeksema's (1987) claim that gender-specific coping styles are causal factors in the onset, course, and severity of a depressed mood; and (2), that these explain the observed sex difference in depression rates. These two causal statements appear to supersede the importance that research has highlighted for the impact of life events and a prior history of anxiety in the observed sex differences in depression. Although, Nolen-Hoeksema has acknowledged that life events may be a third variable in the rumination and depressed mood equation, and that there is a comorbidity with depression and anxiety, no study in the area has addressed these two issues adequately.

Nolen-Hoeksema uses the term 'excessive rumination' in regard to depressed mood in her theory. It is unclear whether the concept of 'excessive rumination' is the same as the *DSM-IV*'s 'obsessive rumination', which is described as a diagnostic feature of depression. Are there differences (i.e., linguistic, conceptual, clinical and otherwise) between 'excessive' and 'obsessive' rumination? Furthermore, Klein et al. (1993) have pointed out that the *DSM-IV* does not define at which point 'obsessive rumination' becomes a feature of MDD; and whether any diagnostic threshold from a measure corresponds to a meaningful threshold of clinically significant maladaptivity that is consistent across different contexts. This highlights an important area of concern that must be addressed by those proposing 'rumination' as a causal factor in the experience of depressed mood.

Definitions of a Ruminative and Distractive Coping Style

Nolen-Hoeksema (1987) has proposed the following definitions for ruminative and distractive coping styles.

Ruminative responses:-

Are defined as any 'ruminative thoughts and behaviours' that repetitively focus the individual on their symptoms, possible causes, and consequences of those symptoms. Ruminative responses are symptom-focused, contemplative, and differ from automatic negative thoughts in that some thoughts may be quite realistic (e.g., "I'm so tired"). Examples may include: Isolation, pondering on feelings, excessive ruminating on causes of depressive symptoms, and ruminating in order to rectify the depression (Morrow & Nolen-Hoeksema, 1990).

Behavioural responses:-

Are defined as any 'distractive thoughts and behaviours' that take the individual's mind off their symptoms. Examples may include: Engaging in pleasurable/neutral activities with self, friends, or hobbies requiring concentration that facilitates distraction from the current mood. An important caveat is that some distractive responses can be maladaptive and negatively affect health, social function, and occupation (e.g., reckless driving and excesses in drugs and alcohol; Morrow & Nolen-Hoeksema, 1990).

Cognitive and Behavioural-Attentional Style

The 'style' more than the 'content' of responses is primary in Nolen-Hoeksema's (1987) 'response style' theory. However, differentiating the two may be useful. 'Style' is defined as a manner of performing (the behavioural aspect of the theory?), whereas 'content' is defined as what is contained in something and as being distinct from its form or style (the cognitive-attentional aspects of the theory?; Allen, 1990). Clearly, these

constructs can be distinguished in a linguistic sense, but can they be as distinct when considering an individual's cognition and behaviour.

Nolen-Hoeksema suggests that the content of cognition that individuals eventually arrive at may resemble automatic negative thoughts -- but the style is not to be equated with these. Negative thoughts may emerge as a result of this style, but it is the content of negative cognition that raises concern (Nolen-Hoeksema, 1987). She claims a ruminative response style comprises a behavioural-attentional style in which individuals focus intently on their depressive symptoms without acting to relieve them, rather than as a set of thoughts with distorted negative content. Indeed, individual ruminations about depressive symptoms are often realistic rather than distorted (Nolen-Hoeksema, 1990). However, what is the difference (if any?) between automatic negative thoughts and negative cognition in relation to depression and can these be viewed in isolation from style? Moreover, can the measurement instruments used in support of the 'response style' theory (i.e., the RSQ and the DER) clearly capture the cognition (i.e., content) and behavioural-attentional style used in response to depressed mood?

Rumination about depressive symptoms, causes, and consequences are normal reactions when depressed. However, other variables (e.g., severity of the mood, personality, resources, type and seriousness of life events, etc, besides coping style) may assist those who recover more quickly from depressed moods. Although a ruminative response style may prolong the duration of a depressed mood for some individuals, it is important to measure the degree of rumination (i.e., meaningful level of maladaptivity) together with other variables in order to look at which combination of variables appears to cause and prolong depressed moods.

Teasdale (1988) claims Nolen-Hoeksema's (1987) preferred explanation in regard to sex differences in depression is that there are sex differences in response styles to depression. Nevertheless, Teasdale argues that Nolen-Hoeksema's theory overlaps considerably with the cognitive vulnerability theory he has presented. From a cognitive standpoint, responding to depression with either a ruminative or distractive style is a 'result' of differences between men and women in

cognitive processes associated with initial episodes of depressed mood (Teasdale, 1988).

Teasdale's (1988) differential activation theory proposes that individual differences emerge in patterns of thinking and it is thoughts that are available in the initial depressed mood state that determine the interpretation of experiences and start the cycle that maintains depressed mood. However, in her response, Nolen-Hoeksema (1990) argued that her results indicated that a ruminative response style is an important predictor of depression and not simply a by-product of negative schemas and the situations that activate schemas.

Implications of Response Styles in Cognitive-Behavioural Therapy

Nolen-Hoeksema and her colleagues have proposed that teaching women to change their ruminative coping style to a distractive coping style with cognitive-behavioural therapy would alleviate their depression (Burns & Nolen-Hoeksema, 1991, 1992; Nolen-Hoeksema et al., 1993). Cognitive-behavioural therapy includes techniques to modify dysfunctional cognitions and behaviours and studies of clinically depressed individuals report externally focused tasks help decrease depressed mood (Fennell & Teasdale, 1984; McLean & Hakstian, 1979; Morrow & Nolen-Hoeksema, 1990; Scott & Stradling, 1991; Shaw, 1989; Zeiss, Lewinsohn & Munoz, 1979).

However, numerous reviews indicate that either in combination or as separate treatments, pharmacotherapy and cognitive-therapy are effective in all age groups in treating depression (Birmaher, Ryan, Williamson, Brent & Kaufman, 1996; Blackburn, Bishop, Glen, Whalley & Christie, 1981; Kovacs, Rush, Beck, Hollon, 1981; Shaw, 1989; Stuart & Thase, 1994; Thase, Bowler & Harden, 1991; Thase & Simons, 1992; Williams, 1992).

Furthermore, it is unclear what the most powerful and 'active ingredients' are in the therapeutic effectiveness that cognitive-behavioural therapy provides (Fennell & Teasdale, 1984; Fennell, Teasdale, Jones & Damlè, 1987; Teasdale & Fennell, 1982). Thus, do changes in depressogenic schemata (accommodation) occur, or is it the mood-

correcting compensatory skills individuals learn that result in decreased depression (Barber & De Rubeis, 1989)? Beck (1985; cited in Robins & Hayes, 1993) has claimed that cognitive change is a common pathway where various therapies produce change.

Reviews of cognitive-behavioural therapy have found treatment rationale, homework, and psychotherapy were necessary features, especially if life events or interpersonal factors underlie the depression (Illardi & Craighead, 1994; Lyubomirsky & Nolen-Hoeksema, 1995; Nolen-Hoeksema, 1991). Because women suffer more physical abuse than men, overlooking an abusive personal environment could hinder change and increase a false sense of responsibility for the depression. Recent research indicates that interpersonal factors are possibly the most powerful and effective ingredients in all treatment modalities over that of cognitive factors (Hayes, Castonguay & Goldfried, 1996). Therefore, although coping styles are important techniques in cognitive-behavioural therapy they should be used along with a consideration of the individual's personal and social environment.

What Rumination and Distraction Can Do

Nolen-Hoeksema (1987, 1990) proposed that a negative bias in cognition distorts memories in a pessimistic manner and thus supports rumination as a negative tendency that enhances the effects of maladaptive cognitive styles. Rumination interferes with attention and concentration which leads to: Increased failures, a sense of helplessness, an inability to engage in complex problem-solving and the initiation of active behaviours -- Kuhl (1981; cited in Morrow & Nolen-Hoeksema, 1990) refers to this as being 'state-orientated'.

In contrast, distractive behaviours increase individual opportunities for controlling the environment and obtaining positive reinforcers which then dampen depressed mood. Thus, an individual using a distractive response may tend to distract themselves from negative cognition and deter the onset of a vicious cycle (Morrow & Nolen-Hoeksema, 1990; Nolen-Hoeksema et al., 1993). Distractive activities are more pleasurable and give positive reinforcement -- Kuhl

(1981; cited in Morrow & Nolen-Hoeksema, 1990) refers to these as 'action-orientated'. The 'action-orientated' distractive response style promotes physical activity.

Byrne and Byrne (1993) reviewed studies (post-1975) which have focused on the effect of exercise on depression and found the therapeutic effects of physical activity upon anxiety and mood states are well-documented. However, longitudinal studies are needed to broaden the links between exercise and its therapeutic effects against depression (Allen, 1983; cited in Brandon & Loftin, 1991; Byrne & Byrne, 1993; Nolen-Hoeksema et al., 1993). Psychological and physiological factors interact to affect mood states, however, either distraction or activity help alleviate depressed mood to a greater degree than engaging in ruminative thoughts while physically active (Morrow & Nolen-Hoeksema, 1990). Although there is plenty of evidence for the therapeutic effect of exercise upon depressed mood, there is a lack of research evidence for sex differences in depression being related to sex differences in activity levels. Two reviews for infant activity levels concluded that there were no sex differences under 12 months (Eaton & Enns, 1986; Maccoby & Jacklin, 1974). However, post this period, boys were more active than girls in the pre-school years. It is possible that biological and sociological factors may tend to push the continuance of these observed activity levels through to adulthood.

Nolen-Hoeksema (1990) comments that continual use of either response style may not be optimal in responding to adversity and stress. Increased activity alone is not conducive to alleviating depression and constant distraction may overlook possibilities for ascertaining depressed mood contributors. Furthermore, maladaptive distractive responses may produce greater dysfunction.

Self-Focus

Nolen-Hoeksema (1987) claims the 'response style' theory is different from 'self-regulatory' and 'self-focusing' theories in that it concerns individual response to mood; 'self-regulatory' theories focus on discrepancies that may lead to depression; and 'self-focusing' theories

focus on the extent of discrepancy between real and ideal selves. Yet, Nolen-Hoeksema contends a ruminative style maintains depression regardless of focus or discrepancy. She claims ruminative tendencies are a type of regulatory response to depressed mood, rather than part of a generally obsessive thinking style used in decision-making and in response to life events. However, are there distinct types of self-regulatory cognition (or cognitive styles?) that are employed when individuals focus on symptoms, life events, or decision-making, in order to maintain their equilibrium?

Self-focus is a primary characteristic of depression in the 'response style' theory (Nolen-Hoeksema, 1987). There are a multitude of descriptive terms that relate to contemplation of the self and could be linked to depressive experiences (i.e., self-focus, self-evaluation, self-regulation, self-awareness, self-analysis, self-contemplation, self-consciousness, etc.). Self-focus may be a replication of other self-related terms that are often confounded and commonly employed by individuals in relation to coping with depressed moods. In fact, most individuals may engage in rumination and private self-focus in order to maintain mental and physical equilibrium in daily life but do not get depressed.

Self-focus is defined as involving a disposition to analyse that is not contingent on an individual's mood (Carver & Scheier, 1981; Fenigstein, Scheier & Buss, 1975; both cited in Nolen-Hoeksema, 1990). Therefore, a disposition to analyse may have similarities to rumination but self-focusing (rumination?) may not always lead to depression or prolong depressed moods.

Self-focus tends to increase the likelihood that individuals will make internal attributions for negative events and increase negative expectations for the future (Nolen-Hoeksema, 1987). Thus, self-focusing factors parallel the ruminative 'response style' theory that predicts individuals who ruminate will experience prolonged depressive episodes (Morrow & Nolen-Hoeksema, 1990). However, self-focus is common to many emotional disorders and other cognitive aspects, concerning content and processing, may be unique to depression (Tennen et al., 1995; Wood, Saltzberg, Neale, Stone & Rachmiel, 1990). Numerous studies report links between excessive self-focus and depression, however, more research is required on the specific content of self-referent thoughts and depression

(Pyszczynski & Greenburg, 1992). In fact, Wood et al. (1990) caution researchers who give self-focus a prominent emphasis in depression. Caution seems appropriate. More research is needed regarding the types of self-referent thoughts that may cause and prolong depressed moods, and the level of maladaptivity these produce.

Attributional Style

Another process that Nolen-Hoeksema (1987) considers is involved in the 'response style' theory are possible sex differences in attributional explanatory style. Bebbington (1996) claims the grail is to find markers of explanatory style during periods of well-being. A ruminative response style can lead individuals to provide depressogenic explanations for current negative events that result in increased feelings of helplessness and hopelessness over the mood state (Morrow & Nolen-Hoeksema, 1990).

Individuals who habitually explain bad events by internal, stable, and global causes, and yet explain good events by external, unstable, and specific causes, are more vulnerable to depression than individuals with an opposite attributional explanatory style (Abramson, Seligman & Teasdale, 1978; cited in Pyszczynski & Greenberg, 1992).

Two meta-analyses indicate that attributional style is associated with both self-reported and clinical depression across age, gender, and sample type (Joiner & Wagner, 1995; Sweeney, Anderson & Bailey, 1986). Furthermore, the results of a recent study have led investigators to suggest that the genetic variance in life events for women compared to men may be explained in attributional processes (Saudino, Pedersen, Lichtenstein, McClearn & Plomin, 1997). However, Whitley, Michael and Tremont (1991) found no sex differences in the relationship between attributional style and depression that was generally linear across four levels of depression (low, average, moderate, and high). These investigators suggest this could be a 'general phenomenon' or as Nolen-Hoeksema (1987) has proposed results from the self-selection bias of women students (i.e., women students may differ from women who do not attend college on depression and other related variables).

Women may have different and more complex attributional styles than men. Therefore, it may be conducive to source markers that include the influence of gender and mood (depressed and non-depressed) when attributions are assessed and not purely in relation to achievement-related domains (Bebbington, 1996; Hammen, Krantz & Cochran, 1981; Johnson, 1992).

Attributional style may be useful in explaining women's ineffectual response style to life circumstances and depression but Nolen-Hoeksema's (1987, 1990) review of sex differences in attributions in adults found the results to be inconclusive due to methodological problems and the overstatement of small effect sizes. Similarly, Bebbington (1996) concluded that the evidence on sex differences in depressogenic attributions was inconclusive.

Origins of Sex Differences in Response styles

Childhood.

Nolen-Hoeksema (1987) claims that the higher levels of self-evaluative concerns and a maladaptive explanatory style exhibited by girls leads to the later female preponderance in depression.

Ruble et al.'s (1993) comprehensive review of the role of gender-related processes in the development of sex differences in self-evaluation and depression highlighted the fact that, girls from pre-school to adolescence, have higher levels of self-evaluative concerns than boys. However, Bebbington (1996) considers the ruminative style used mostly by girls to be a 'default option'; even if boys are rewarded for active responses and girls are not, girls may not be reinforced for using a ruminative style. Nonetheless, Nolen-Hoeksema (1990) claims girls are not rewarded for activity in the same way that boys are.

Recently, some studies have reported evidence for a male childhood preponderance in depression (Nolen-Hoeksema, 1990; Nolen-Hoeksema et al., 1991). However, Ruble et al.'s (1993) review found the results overall were inconclusive. The lack of clinically based guidelines for childhood depression (see Ruble et al.'s review; i.e., a diagnosis of

anhedonia in boys in relation to school interest?) does not increase the validity of findings that claim significant levels of male childhood depression. Furthermore, it is unclear how a middle childhood male preponderance in depression becomes a female preponderance in adolescence.

Nolen-Hoeksema (1990) claims that a switch in explanatory style occurs at some period in middle childhood and girls develop a more maladaptive explanatory style than boys which leads to the later female preponderance. No studies have yet tested this hypothesis. However, girls exhibit higher levels of school interest, verbal adeptness, and self-confidence in middle childhood (Ruble et al., 1993). In fact, even if there were no switch in explanatory style this would not make the 'response style' theory less plausible.

Girls may preponderate in depressed moods and anxiety states in middle childhood, a trend that continues into adulthood. Conversely, boys may preponderate in conduct disorder and aggressive behaviours in middle childhood leading to the male adulthood preponderance in substance abuse and aggressive behaviours. In middle childhood, both genders may be predisposed or set up (i.e., various biological and psychosocial explanations, and the 'response style' theory) to display more readily extremes in symptoms and behaviour at the junction of adolescence. The period of adolescence is where tremendous internal and external pressures intensify. However, numerous studies support the more pressured transition into adolescence that girls experience which may lead to the female preponderance in depression (Allgood-Merten et al., 1992; Nolen-Hoeksema, 1987).

Adolescence.

Nolen-Hoeksema and Girgus (1994) reviewed the evidence for sex differences in depression during adolescence and found (methodological problems aside) that three hypothetical models emerged. The first model suggested that identical factors cause depression with some more prevalent in girls than boys in early adolescence. The second model suggested that different factors lead to depression in boys and girls but that in adolescence factors for girls become more common than factors for

boys. The third model -- and the one supported by Nolen-Hoeksema and Girgus (1994) -- suggested that girls have characteristics that present a greater risk for depression before puberty and, when these interact with the pressures of adolescence, girls experience greater levels of depression.

Nolen-Hoeksema and Girgus's (1994) review also found that in some studies the ruminative coping style was evident in girls more than boys. Thus, they suggested that the biological and sociological challenges of adolescence interact with the less active and instrumental coping style common in girls and lead to the female preponderance in depression. Girls tend to be more self-conscious in adolescence than boys and Allgood-Merten et al. (1992) consider self-evaluative concerns may be duration-type variables as Nolen-Hoeksema (1987) has suggested. However, longitudinal studies are needed in order to chart the hypothesised progression and transformation of self-evaluative concerns (self-regulatory processes?) that could later manifest as a maladaptive style of coping.

Coping Styles

Folkman (1984) claims that coping is not a stable personality feature but, rather, is a complex changing process that interacts with the social environment. The empirical evidence explains that coping involves individual cognitive and behavioural efforts, either automatic or intentional, to regulate distressing emotions (emotion-focused coping) and to change problems causing distress (problem-focused coping; Carpenter, 1992; Nolen-Hoeksema, 1991). However, the empirical evidence also indicates that these two main categories of coping often overlap, vary in different situations, and can be sub-categorised into further types of response such as: Positive appraisal, disengagement, salutary effort, selective ignoring, stress palliation or emotional discharge (Carpenter, 1992; Folkman, 1984; Hanninen & Aro, 1996).

Therefore, ascertaining whether there are specific coping styles in relation to certain disorders can be problematic due to the inter-connections that occur between thoughts and behaviours that can be both problem-focused and emotion-focused responses. Coping resources are

also an important factor when considering particular coping styles and these can include personal (i.e., abilities and personality) and environmental concerns (i.e., social support and financial; Carpenter, 1992).

As a result, coping styles cannot be viewed simply as isolated end-products of behaviour in relation to depressed moods. In order to link any coping style to depressed mood, research findings should be tempered by the knowledge that: Coping occurs in a context, there are individual differences in personality and learned responses, and many other variables are part of individual response style (i.e., as discussed previously in the "Main Categories of Explanations" section).

Much of the coping literature has not focused on coping in association with depression but with life events and other adversities (Nolen-Hoeksema, 1991). Folkman (1984) concluded that, when there is no life event clearly linked to a depressed mood then coping behaviours are needed to relieve the mood. In Nolen-Hoeksema's (1987) theory inward self-focus to find the cause of a depressed mood is considered a maladaptive coping style, and yet the coping literature explains that avoidance of negative emotions is a maladaptive response. Suppressing emotions and ruminating about emotions may represent the extremes of two different coping strategies that are both maladaptive (Nolen-Hoeksema et al., 1994). However, Nolen-Hoeksema (1991) has suggested the contradiction between these two literatures may emerge from the measurement of emotion-focused coping. This may still be problematic when the measurement indices for coping used in relation to the 'response style' theory are examined.

Nolen-Hoeksema and her colleagues have sometimes used the RSQ and the DER to record individual coping styles of a ruminative and distractive nature in response to depressed mood. However, on close inspection neither measure offers equal numbers of choices in specific coping categories and individual differences in perception could confound the results given for one particular response. For example, one of the DER's distractive behavioural responses 'Do something I enjoy' could represent engaging in substance abuse, over-eating, and 'retail therapy'. These may be considered extreme levels of behaviour that would lead to more distress later as Nolen-Hoeksema (1990) has pointed

out. Moreover, they may reflect individual responses but be an expression of other variables in the relationship between coping style and depressed moods (i.e., personality and resource constraints). Whether the RSQ and DER can accurately capture functional (i.e., positive and optimistic) and dysfunctional (i.e., negative and pessimistic) ways of coping remains unclear. Nolen-Hoeksema (1991) has suggested that more improved measures are needed for the recording of distracting response styles. Thus, these two main measures for recording 'response styles' to depressed mood require improvement and empirical support.

Sex Differences in Coping Styles

The observation that sex differences occur in coping styles during adulthood could help explain some of the sex differences in depression rates (Bebbington, 1996). There is a meagre amount of research that has focused specifically on sex differences in coping styles and most of the evidence available has emerged as additional findings. Bruder-Maltson and Horowitz (1990; cited in Bebbington, 1996) have reported a stronger relationship in women compared to men for coping, attributional style, and depression. Billings and Moos (1984; cited in Bebbington, 1996) claim that coping styles are personal dispositions linked to well-being. The empirical evidence indicates that men use mostly problem-solving strategies that are not depression-associated, whereas women use mostly emotion-focused strategies that are associated with depression (Billings & Moos, 1984; cited in Bebbington, 1996; Hanninen & Aro, 1996; Kleinke, Staneski & Mason, 1982; Nolen-Hoeksema, 1990). Problem-focused coping has generally been found to be more effective but this does not necessarily imply that emotion-focused coping (distractive thoughts and behaviours) is dysfunctional.

The first controlled study of Nolen-Hoeksema's (1987) gender-specific 'response style' theory confirmed the powerful effects of a ruminative response style in prolonging depressed mood but reported no sex differences in response style. Hanninen and Aro's (1996) study of sex differences in depression focused upon coping styles in order to ascertain whether there are dysfunctional and functional coping styles in relation to

depression, and whether there is a corresponding sex preference in style as Nolen-Hoeksema (1987) suggested.

Hanninen and Aro (1996) found two ways of coping were associated with depression. Dysfunctional coping was positively correlated and functional coping was negatively correlated with depression. Women resorted to dysfunctional coping more than men except for men's greater alcohol consumption. The sex difference in depression was eliminated when this difference was taken into account. Dysfunctional coping involved self-blame, venting anger, comfort-eating (sweets), and alcohol consumption. In contrast, functional coping involved both problem-focused and emotion-focused coping (e.g., reassuring thoughts and persistence in problem-solving).

Hanninen and Aro (1996) conclude that three main explanations have been provided for the sex differences in coping: (1) Personal differences (i.e., self-esteem, locus of control, and hardiness); (2) the coping response depends on context; and (3) socio-cultural norms result in different gender coping strategies. Another study concerning sex differences in coping with depression reported that women tended to resort more to crying, eating, and seeking social support; however, men resorted more to using alcohol, drugs, and isolation (Kleinke et al., 1982). Furthermore, two studies have found sex differences in the expression of depression that were similar for depressed and nondepressed students (Hammen & Padesky, 1977; Padesky & Hammen, 1981; both cited in Kleinke et al., 1982). Thus, there appears to be some evidence for sex differences in depression-coping strategies. Nevertheless, a simple categorisation of coping styles should be tempered by the problems the coping literature has identified and the problems in the RSQ and DER coping indices that have been used in support of Nolen-Hoeksema's (1987) 'response style' theory.

Summary of Part 2.

Nolen-Hoeksema's (1987) 'response style' theory comprises a cognitive explanation that claims sex differences in response styles lead to the observed sex differences in the rates of depression. The theory

overlaps considerably with Teasdale's (1988) cognitive vulnerability theory. Nolen-Hoeksema's theory is supported by findings from correlational studies she has conducted with her colleagues. Their findings show that the ruminative responses women tend to make are dysfunctional, exacerbate and prolong depressed moods, and are associated with their greater rates of depression; the distractive responses men tend to make are functional, relieve and alleviate depressed moods, and are associated with their lesser rates of depression.

Two important components of the 'response style' theory concern whether or not the ruminative coping style firstly, prolongs a depressed mood, and secondly, is a causal factor for the observed female preponderance in depression. The primary causative focus in her theory concerns rumination about symptoms, causes and consequences of an individual's experience of depressed mood. Nolen-Hoeksema (1987) acknowledges that life events may be a third variable in the rumination and depressed mood equation. However, the main focus on coping style overshadows the importance and impact of life events and other variables that may have contributed to the onset and duration of the depressed mood. Research findings indicate that stress variables and a prior history of anxiety have been found to contribute to sex differences in depression (Breslau et al., 1995; Spangler et al., 1996).

Most people indulge in rumination but do not get depressed. Ruminators may do so to gain insight into their problems but there is a lack of research on this point (Lyubomirsky & Nolen-Hoeksema, 1993). Thus, rumination tends to be associated with negativity even though distraction may not always have positive outcomes. Nolen-Hoeksema (1987) uses the term 'excessive rumination' in her theory and the distinction between this concept and the *DSM-IV*'s 'obsessive rumination' is unclear. The *DSM-IV* does not define at which point 'obsessive rumination' becomes a feature of MDD and furthermore, whether any diagnostic threshold from a measure corresponds to a meaningful threshold of clinically significant maladaptivity that is consistent across different contexts.

The 'style' more than the 'content' is primary in the theory. Although these concepts may be distinct in a linguistic sense, the real question is whether they be distinguished by the RSQ and DER as

separate empirical components of coping styles. Nolen-Hoeksema (1987) gives some prominence to self-focus in her theory. Rumination may be a 'common and normal' self-regulatory response to depressed mood that involves some level of self-focus. However, self-focus may be related to other self-related terms that are common self-regulatory attempts to gain equilibrium after distress. Self-focus is common to many disorders and researchers caution against giving self-focus prominence in relation to depression because other cognitive aspects concerning content and processing may be unique to depression (Tennen et al. 1995; Wood et al. 1990).

Attributional explanatory style has been explained as a factor in the female preponderance in depression but there is no conclusive evidence to indicate that women make more depressogenic attributions than men (Bebbington, 1996; Nolen-Hoeksema, 1987, 1990).

Nolen-Hoeksema (1987) proposes that the 'response style' theory highlights the importance of changing women's depression-associated ruminative response style to a more distractive response style associated with alleviating depression. The implications for changing women's response styles within cognitive-behavioural therapy are important because recent research has indicated that interpersonal factors are the most powerful and active ingredients in the therapeutic effectiveness of cognitive-behavioural therapy. Thus, simply changing a woman's ruminative coping style to a more distractive coping style overlooks the powerful impact her social situation has had upon her depressive experience.

Sex differences in response style may begin early in the life-span from gender-related socialisation processes that are later influenced by individual biological processes. Longitudinal research is needed to ascertain whether the higher levels of self-evaluative concerns exhibited by girls are duration-type variables that precede and transform into the ruminative coping style that Nolen-Hoeksema (1987) suggests causes the female preponderance in depression.

Individual coping style should not be viewed simply as an isolated end-product of behaviour in relation to explaining individual coping experiences and depression. Coping includes biological and sociological elements. Coping can vary according to context, available resources, and

type of precipitating life event -- it may not be a stable feature of personality. The two main categories of coping responses that have been defined are emotion-focused and problem-solving -- these overlap considerably and can be further sub-categorised. The single administration of a coping measure to ascertain coping style in response to depressed mood may fail to reflect an individual's coping style. The RSQ and the DER used by Nolen-Hoeksema (1987) in support of the 'response style' theory have deficiencies that require attention. The maladaptivity of inward self-focus that Nolen-Hoeksema implicates in her 'response style' theory is at odds with Folkman's (1984) conclusions. However, Nolen-Hoeksema (1991) claims that the measurement of emotion-focused coping is where the problem lies.

Research on coping has indicated men tend to use problem-focused coping and women tend to use emotion-focused coping. The meagre number of studies reporting findings of sex differences in coping responses to depression have been conducted using student samples (not groups notable for reporting clinically significant levels of depression). In one study, dysfunctional coping was positively correlated with depression and functional coping was negatively correlated with depression. Women resorted to the former more than men but the sex difference was eliminated when men's alcohol consumption was taken into account.

Summary of Introduction

Finally, as indicated in Part 1, the evidence on sex differences in depression indicates the female preponderance in depression occurs within the fertile years of the life-span and is one of the most robust findings in epidemiological surveys. The accurate differentiation between a transitory depressed mood and full mood disorder status in women remains controversial. Biological, psycho-social and cognitive risk factors interact and affect the individual experience of depression. The introduction section has highlighted that despite much inconsistency in findings there is evidence to show that women may have a greater vulnerability for risk factors associated with depression compared to men.

In Part 2, Nolen-Hoeksema's (1987) theory was presented. Nolen-Hoeksema contends that a sex difference in cognitive, behavioural-attentional response style can explain the observed sex difference in depression. Primarily, she contends that a ruminative response style is an important predictor of depression. However, Teasdale (1988) argues that these gender-specific coping styles emerge as a 'result' of gender differences in cognitive processes that occur with initial episodes of depression. Some evidence suggests that sex differences in depression emerge from a prior history of anxiety and stress variables and that these are important in the precipitation and duration of depressed moods. Furthermore, there are important methodological and comorbidity issues that need to be addressed for Nolen-Hoeksema's (1987) 'response style' theory to receive greater support as a causal explanation for the observed female preponderance in depression.

The purpose of the present study was to replicate and extend the diary study conducted by Nolen-Hoeksema et al. (1993). In Nolen-Hoeksema et al.'s study, participants tracked their naturally occurring depressed moods for 30 consecutive days. At approximately the same time each day, a Daily Emotion Report (DER) was completed in which participants reported whether or not they had experienced a sad/depressed mood that day; if they had, the severity and duration of the mood were recorded together with their (ruminative and/or distractive) responses to the mood. In retrospect, the 1993 study had two main shortcomings: (1) The measures of the degree of ruminative or distractive responding that participants engaged in were incomplete (e.g., although the number of different coping responses employed was measured, the effectiveness of these in alleviating the mood was not); and (2) some pertinent aspects of the depressed moods (e.g., whether or not some event triggered the mood; and, if so, the seriousness of the event) were not measured at all.

The present study is similar in design to the Nolen-Hoeksema et al. (1993) study except that participants will report on their moods using an improved version of the DER -- modified to remedy the shortcomings mentioned above. Additional questions were included to extend the amount of information collected on depressed moods. The main questions were: (1) Do individuals have consistent response styles to

depressed moods?; (2) is a ruminative response style associated with longer and more severe episodes of depressed mood than a distractive response style?; (3) do women tend to have a ruminative response style and men a more distractive response style?; (4) if so, is this difference associated with sex differences in the duration and severity of depressed moods?; and (5) is there a relationship between response style and the seriousness of the events that precipitate depressed moods?

METHOD

Participants

The sample comprised 36 female and 29 male participants. They were (unpaid) undergraduates enrolled in an introductory psychology course at Massey University's Albany Campus. One female participant failed to complete the 30-day period, and was dropped from the study, leaving a total of 64 participants. The participants' ages ranged between 18 to 45 years, with a mean of 27.36 ($SD = 8.71$), as presented in Table 2. There was no difference in the mean age of the women (27.94; $SD = 8.91$) and men (26.66; $SD = 8.57$).

Procedure

Participants were recruited via a brief presentation of the research design during lectures. Small group orientation sessions of one hour duration were held and participants received an information sheet describing the particulars of the study and a consent form (see Appendices D & E). Care was taken to conceal the primary interest in 'depression', thus details of the project and the study's title, 'Daily Experience of Emotion', were worded to emphasise a range of 'moods', rather than emphasising the depression component.

At the orientation sessions a range of issues relating to the study were discussed and any questions were answered. In addition to explaining the requirements of the study, a number of pertinent ethical issues were discussed including: The participants' rights to confidentiality and to withdraw without penalty at any time. In filling out the DER's participants were encouraged to be as accurate and as truthful as possible, as evidence shows men in particular may be reluctant to report symptoms associated with depression (Page & Bennesch, 1993). In addition, some standard psychological measures were given at the orientation session. Once consent was obtained, the measures completed, and the details of the DER were understood, each participant was given an envelope that

contained 30 Daily Emotion Reports. Participants were instructed to return the completed DER's to the researcher in the sealed envelope at the end of the 30-day period. Each participant selected a private code name/number at the orientation session. This code name/number was recorded on the initial measures and all DER forms, ensuring that all responses were anonymous.

Measures

Three initial measures were administered at the orientation session to ascertain levels of depression, response styles, and locus of control orientation (see Appendix F). The 'Beck Depression Inventory' (BDI) was used to assess levels of depression. The 'Response Style Questionnaire' (RSQ) was used to ascertain individual response styles. Finally, Julian Rotter's Locus of Control (LOC) was used to see whether an individual had a predominantly internal or external locus of control.

Finally, the extended and improved version of the DER (see Appendix G) was used for participants to record their sad or depressed moods, types and effectiveness of responses to these moods, and links to life events.

The BDI.

The BDI (1979; restandardised version) is the most widely used instrument for detecting depressive symptoms in a non-clinical assessment of depression (Beck, Steer & Garbin, 1988). Participants described their functioning during the last week in the 21-item questionnaire that assesses cognitive, motivational, affective, and somatic components of depression. Each item has four alternatives that are coded from 0 to 3, with higher scores representing increasing symptom severity. Thus, total scores can range from 0 to 63. Beck et al. (1988) argue that higher cut-off scores should be used to minimise the presence of false positives. Beck et al.'s cutoff guidelines were employed in the present study.

The cutoffs are as follows:

Score < 10	Minimum depressed mood
$10 \leq \text{Score} < 18$	Mild to moderate depression
$18 \leq \text{Score} < 29$	Moderate to severe depression
Score ≥ 29	Severe depression

Beck et al. (1988) report that the BDI has consistently adequate validity and reliability across different populations. Their meta-analysis of the BDI literature reports an internal consistency of .81 (coefficient alpha) for non-psychiatric participants. Concurrent validities against clinical ratings and the 'Hamilton Psychiatric Rating Scale' for Depression were .60 and .74.

The LOC.

Rotter's (1966) Internal-External Scale is a widely used instrument useful in exploratory research with locus of control. Although little evidence exists for a LOC and depression relationship generally (Lefcourt, 1977; cited in Robbins, 1993), a meta-analysis by Benassi, Sweeney, and Dufour (1988) reported a consistent and moderately strong relationship between external LOC orientation and depression. The scale measures the extent to which people believe they control what happens to them (internal control); or believe events are largely outside or beyond their control (external control).

The forced choice scale is self-administered and consists of 29 question pairs, including 6 filler questions. The paired questions consist of one internal and one external statement. One point is given for each external statement chosen and scores can range from 0 (most internal) to 23 (most external).

Recent normative data indicate a mean of 11.3 ($SD = 4.4$) for 113 men, and a mean of 12.2 ($SD = 4.2$) for 146 women (Parkes, 1985; cited in Lefcourt, 1991). The reliability of the LOC is acceptable, with an internal consistency (Kuder-Richardson) of .70 and a test-retest reliability coefficient of .72 (Lefcourt, 1991). Discriminant validity has been reported with correlations ranging from -.23 to -.70 with 'Edwards Social Desirability Scales' (Lefcourt, 1991).

The RSQ.

The RSQ is a 71-item self-report scale designed to assess the way in which an individual typically copes with feelings of depression. Based on Nolen-Hoeksema's (1987) 'response style' theory of depression, the instrument measures ruminative style (the tendency to focus on self, symptoms, causes and consequences of depression), and distractive style (the tendency to engage in active responses that direct attention away from depression). Instructions read as follows:

"People think and do many different things when they feel down, sad, blue or depressed. Below you will find a list of possibilities. For each possibility, please indicate if you never, sometimes, often, or always think or do each one when you feel down, sad, or depressed. Please indicate what you GENERALLY do, not what you think you should do".

Participants respond to each item using a four point scale: 'almost never' = 1, 'sometimes' = 2, 'often' = 3, and 'almost always' = 4. The RSQ contains four subscales: rumination, distraction, problem-solving, and dangerous activities.

Nolen-Hoeksema and Morrow (1991) report adequate internal consistencies (Cronbach's alpha) of .89 and .80 for the ruminative and distractive scales, respectively, in student samples. Responses on these scales have been shown to predict both self-reported and observed use of ruminative and distractive behaviours when depressed (Nolen-Hoeksema, 1991). However, the internal consistencies of the problem-solving and dangerous activities scales were poor (.68 and .44, respectively; Nolen-Hoeksema & Morrow, 1991). Perhaps this is not surprising, given that the problem-solving and dangerous activities scales consist of only four items each.

The DER.

The DER is a 30-day diary that gathers cognitive and behavioural information as an on-going interactional process. Participants in the present study completed an improved version of the DER at

approximately the same time each day, for thirty consecutive days. The DER can provide a more reliable and valid indicator of individual behavioural-attentional style than information from a singular assessment as it increases predictive ability via aggregation over the thirty days. However, 'mood congruent memory' may be problematic together with any therapeutic effects experienced due to increased personal awareness of cognitions and behaviours (DeLonghis, Hemphill & Lehman, 1992).

The DER questions probe participants' experiences of a range of moods in the previous 24-hour period, most of which are recorded using an 11-point Likert scale. There were uneven numbers of ruminative cognitive and behavioural response choices in the original DER. Therefore, the updated DER included equal numbers of ruminative thoughts and behaviours. Part 1 covered questions relating to sad and depressed moods in the last 24 hours and (the smaller) Part 2 covered happy moods in the same 24 hour period. Part 2 was included to project a general interest in moods, rather than emphasising the depression component. However, because the focus of the present study was depressed mood, the results from Part 2 are not reported here.

RESULTS

Analytic Strategy

In order to address each of the present study's objectives, the data collected were analysed in the following ways: (1) Do individuals employ a consistent style of responding to depressed moods?; (2) do the presence and seriousness of a precipitating event influence responses to depressed mood?; (3) ascertaining whether there are any sex differences in response styles and depressive experiences?; (4) developing indices for the severity and duration of episodes of depressed mood; (5) testing the relative explanatory power of initial ruminative and distracting responses and the initial severity of sadness to predict the duration of depressed moods.

Initial screening of data.

When the last of the DER forms had been returned, all of the data were entered into a spreadsheet. Invalid and missing data were identified and (if possible) corrected before proceeding. Very little data were missing. For the RSQ, only four items were unanswered (from a total of 4,544 items). Because the RSQ subscale scores were computed as average item scores, these four missing values were simply ignored. For the LOC, only seven items were unanswered (from a total of 1,856 items). The total LOC scores for the three participants involved were scaled to give a total out of 23. There were no unanswered items or questions in either the BDI or the DER (with the exception of a handful of days when responses to depressed mood were not reported). As was noted earlier, one participant was dropped from the study because they failed to complete the 30-day DER period.

Data analyses.

All data analyses were conducted using SAS. An alpha level of .01 was used for statistical tests in order to minimise the probability of a Type I error, given the large number of analyses conducted. The skew, kurtosis (Kurt.), z score, and normality (p) values are presented in Table 1.

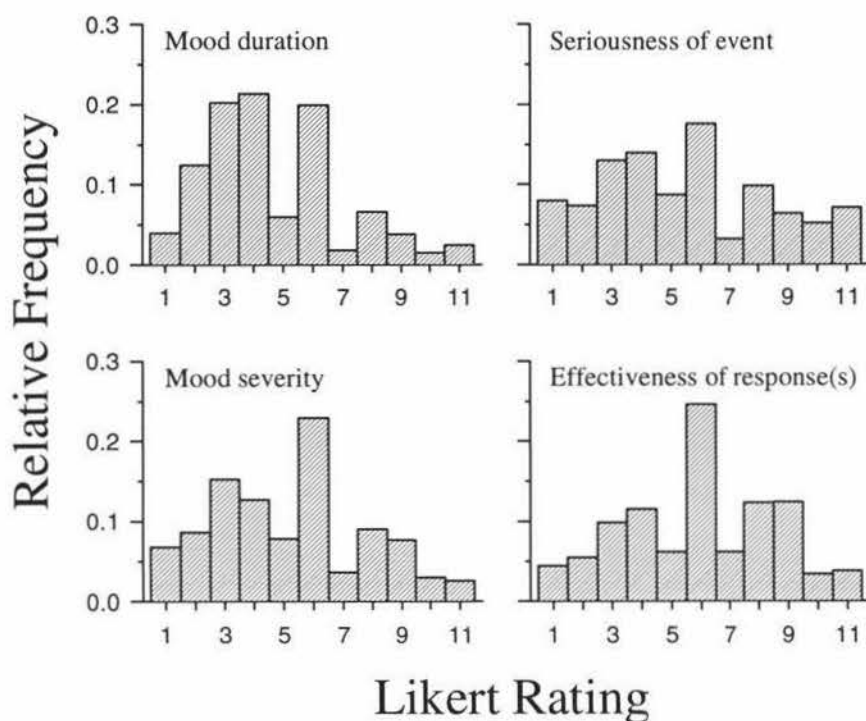


Figure 1. Relative frequency distributions for the DER variables employing the 11-point Likert scale, showing the proportion of all responses using each rating. These relative frequency distributions are based on sample sizes of 730 (mood duration and mood severity), 439 (seriousness of event), and 707 (effectiveness of response).

Table 1.

Relative Frequency Distributions for Initial Measures

Variable	Skew	z	Kurt.	z	p
N = 64					
Age	0.75	2.42	-0.84	-1.38	.00*
LOC	-0.04	-0.13	0.38	0.62	.92
BDI	1.01	3.26	1.34	2.20	.00*
RSQ-Rum	-0.15	-0.48	-0.43	-0.70	.32
RSQ-Dist	0.75	2.42	1.26	2.07	.09
Absolute	-0.15	-0.48	-0.34	-0.75	.54
Dist - Rum	0.09	0.29	1.12	1.35	.34
Women (N = 35)					
Age	0.58	1.40	-1.15	1.18	.00*
LOC	0.24	0.60	0.11	0.36	.68
BDI	0.69	1.67	0.51	0.78	.12
RSQ-Rum	-0.30	-0.72	-0.48	-0.76	.40
RSQ-Dist	1.07	2.58	1.62	1.40	.06
Absolute	0.20	0.48	-0.29	-0.59	.92
Dist - Rum	0.30	0.72	1.34	1.27	.40
Men (N = 29)					
Age	1.03	2.26	-0.21	-0.48	.00*
LOC	-0.47	-1.03	1.33	1.21	.62
BDI	1.22	2.68	1.74	1.38	.01*
RSQ-Rum	0.03	0.07	-0.10	-0.33	.63
RSQ-Dist	-0.19	-0.42	-1.20	-1.15	.12
Absolute	-0.63	-1.39	-0.84	-0.96	.02
Dist - Rum	-0.52	-1.14	0.04	0.21	.29

* non-normal at $\alpha = .01$

The relative frequency distributions of some of the variables can be viewed in Figure 1 -- in each case, a rating of "11" denoted the upper end of the scale (i.e., greater duration, severity, seriousness, and effectiveness). Tabachnick and Fidell (1989) suggest using conventional but small alpha values to test the significance of skew and kurtosis in small and moderate

samples. Thus, an alpha level of .001 was used as a test of significance and most of the distributions were nonsignificantly different to normal and had nonsignificant skew and kurtosis. However, as is clear from Figure 1, there was also considerable variation associated with each of the variables.

The Temporal Consistency of Individuals' Response Styles

To answer the question of whether participants' responses to depressed mood were consistent over the 30-day period, the frequency of ruminative, distractive, and overall responses reported following a depressed mood were examined separately for each participant. For the purposes of this analysis, the 'thoughts' and 'behaviours' categories were combined.

Like Nolen-Hoeksema et al. (1993), we used the method suggested by Rogosa, Floden, and Willett (1984) to test the homogeneity of behaviour count data. The relevant hypothesis test (see Rogosa et al.'s Appendix A, Equation A1) tests the null hypothesis of a constant rate of behaviour output (assuming a Poisson process), against the general alternative hypothesis of any deviation from a constant rate. Thus, the test statistic assesses whether the frequency of behaviours across days are more variable than would be expected under the homogeneity hypothesis.

For each participant, we estimated the variability, across all days on which a depressed mood was reported, on each of three measures: (1) The number of ruminative responses made; (2) the number of distractive responses made; and (3) the total number of responses made, both ruminative and distractive. If the probability that these frequencies resulted from a constant-rate Poisson process was less than .01, a participant's responses were deemed inconsistent with regard to that measure. Overall, the responses of 58 participants (i.e., 91% of the sample) were consistent on all three measures, made up of 31 women (i.e., 89%) and 27 men (i.e., 93%). Of the remaining six subjects, four were inconsistent on only a single measure, one was inconsistent on two measures, and one was inconsistent on all three measures. Thus, the

responses to depressed moods of the vast majority of participants were consistent over the 30-day period examined. Because the responses of so few participants were found to be inconsistent, the data from all 64 participants were analysed together. It is interesting to note that Nolen-Hoeksema et al. (1993) reported a similar degree of consistency in their participants' responses.

Furthermore, not only were participants' actual responses to depressed mood consistent over time, but they were also related to their RSQ scores. The correlation between the overall frequency of ruminative responses reported in the DER and the RSQ rumination score was .48 ($p < .01$). The corresponding correlation for distraction responses was .33 ($p < .01$). This indicates a consistency between what the participants say they do (i.e., the RSQ data) and what they actually do (i.e., the DER data). Although these may not be outstandingly large correlations, they attest to the reasonable consistency of participants' actual responses to depressed moods.

The Seriousness of Events and Response Style

An important question posed in the present research was whether the seriousness of a precipitating event was related to the type of response to the depressed mood. It was also of interest to look at whether the number and type of responses to moods were related to the presence or absence of some precipitating event.

To address this question, we collapsed the data across participants and computed the point-biserial correlation (r_{pb}) between whether or not an event precipitated the mood (arbitrarily coded as 0's and 1's) and the total number of responses made, as well as the relative number of distracting responses made (i.e., the number of distracting responses divided by the total number of responses). Note that on 18 (i.e., 2%) of the 730 reported 'sad' days, respondents failed to report their responses -- these 18 days were eliminated from this analysis. The resulting point-biserial correlations were .08 ($p > .01$) and .03 ($p > .01$), indicating that neither the number of responses made, nor the types of responses chosen, were related to the presence of a precipitating event.

However, when an event did precipitate the sad mood, there was a weak, but statistically significant, relationship between the seriousness of that event and participants' responses to the mood -- but no relationship with the absolute number of responses. Once again, the data were collapsed across participants. Note that on 11 (i.e., 3%) of the 439 days on which a precipitating event was reported, participants failed to report their responses -- these 11 days were eliminated from the analysis. The correlation between the rating of event seriousness and the total number of responses was .04 ($p > .01$), and the correlation with the relative number of distracting responses made was -.12 ($p < .01$). In general then, the more serious the event, the less likely the participant was to engage in distracting responses. This is an intuitively reasonable finding, for it may be more difficult to use a distractive response after experiencing a serious event; the very nature of a serious event may focus an individual's attention 'inwards'?. However, it is important to note that this relationship is clearly a weak one with little over 1% of the total variance accounted for.

Summary of Initial Measures

The RSQ.

Although the instructions supplied with the RSQ indicate that the four subscale scores (i.e., rumination, distraction, problem-solving, and dangerous activities) should represent the total ratings summed over the relevant items, a different scoring procedure was employed in the present study. Because the four subscales have different numbers of items associated with them (i.e., 22 'rumination' items, 11 'distraction' items, 4 'problem-solving' items, and 4 'dangerous activities' items). Total ratings summed over items will misrepresent an individual's predominant response style. In order that the subscale items be comparable, the mean rating per item was computed for each subscale (because of the nature of the rating scale, this mean must vary between 1.0 and 4.0). It is unclear whether Nolen-Hoeksema et al. (1993) analysed summed ratings or mean

ratings, -- although the presumption must be that they followed the apparently (flawed) RSQ instructions.

Calculating the mean-totals showed both groups had a similar response hierarchy, with rumination, distraction, problem-solving and dangerous activities used, in decreasing frequency. However, calculating the mean-item scores produced a different hierarchy, where men and women used only a similar first and last response -- distraction and dangerous activities, respectively. Women's second and third preferences were problem-solving, then rumination; whereas for men this ordering was reversed.

Note that when using summed ratings a different response hierarchy emerges, highlighting the critical nature of the choice of response style metric (see Table 2). The results of the mean-item scores provide a more accurate indication of the most frequently preferred response style. The results of the measures are presented in Table 2 in terms of: Means (*M*), standard deviation (*SD*), the mean-total score (*M*-Total), and the mean-item score (*M*-Item).

There were no significant sex differences in any of the RSQ subscales. Of the four RSQ subscales, participants endorsed distraction most with a mean 2.37 (*SD* = .47), followed by problem-solving 2.19 (*SD* = .52), rumination 2.12 (*SD* = .44), and lastly dangerous activities 1.92 (*SD* = .56). The 'Absolute' variable refers to the mean response level of both rumination and distraction which was recorded at 2.24 (*SD* = .33). The 'Difference' variable represents the difference in mean-item scores for rumination and distraction (i.e., Distraction - Rumination).

The LOC.

Scores varied almost across the entire range of possible values with a minimum score of 1 and a maximum score of 22. However, the mean was 11.64 (*SD* = 4.00), falling in the middle of the internal-external scale, indicating neither extreme in locus of control orientation was found in men and women (and no significant difference in means). These findings are similar to the normative data previously cited (Parkes, 1985; Strickland & Hayley, 1980; both cited in Lefcourt, 1991).

Table 2.

Summary of Initial Measures

Measure	N = 64		W = 35		M = 29	
	M	SD	M	SD	M	SD
Age	27.36	8.71	27.94	8.91	26.66	8.57
LOC	11.64	4.00	11.49	4.19	11.83	3.83
BDI	8.45	5.59	8.54	4.96	8.34	6.37
RSQ = M-Total						
Rumination	46.64	9.76	47.29	9.85	45.86	9.78
Distraction	26.06	5.12	26.60	5.59	25.41	4.50
Problem-Solving	8.75	2.09	9.23	2.43	8.17	1.42
Dangerous Acts	7.67	2.23	7.63	2.39	7.72	2.05
RSQ = M-Item						
Rumination	2.12	0.44	2.15	0.45	2.08	0.44
Distraction	2.37	0.47	2.42	0.51	2.31	0.41
Absolute	2.24	0.33	2.28	0.33	2.20	0.33
Difference	0.25	0.62	0.27	0.69	0.23	0.54
Problem-Solving	2.19	0.52	2.31	0.61	2.04	0.35
Dangerous Acts	1.92	0.56	1.91	0.60	1.93	0.51

The BDI.

Individual BDI scores ranged between 0 and 27 with a mean of 8.45 ($SD = 5.59$), indicating generally minimum levels of depression according to BDI cutoff score categories. Thirty-eight participants recorded BDI scores indicating minimum depression, 22 recorded scores indicating mild depression, four had scores indicating moderate depression, and none had scores indicating severe depression. Clearly, the relative

distribution of the BDI scores was non-normal with positive skew, with 94% of scores falling in the minimum and mild categories.

The pattern of BDI scores was similar for the male and female participants. The percentages of females falling in the 'minimum', 'mild', and 'moderate' categories were 54%, 40%, and 6%. The corresponding percentages for the males were 66%, 28%, and 7%.

Sex Differences in Response Styles and Depressive Experiences

Extending the DER from that used in the Nolen-Hoeksema et al. (1993) study has resulted in some additional variables for consideration. Variables that concern episode analyses will be presented in the latter part of this section. DER variables include: Sad days (Days), duration of sadness (Duration), severity of sadness (Severity), whether or not an event precipitated the sad mood (Event), seriousness of the event (Seriousness), responses, thoughts, behaviours, rumination, distraction, and the effectiveness of the responses (Effectiveness). The results are presented in Table 4 and include the means (*M*), standard deviation (*SD*), *t* and *p* values. Four relative frequency distributions of DER variables are presented in Figure 1, and Table 3. Each of these were measured using an 11-point rating scale.

Table 3.

Characteristics of Relative Frequency Distributions for some DER Variables

Variable	N	Skew	z	Kurt.	z
Duration	730	0.76	8.40*	0.08	0.46
Severity	730	0.28	3.07	-0.72	-3.95*
Seriousness	439	0.29	2.51	-0.87	-3.73*
Effectiveness	707	-0.06	-0.64	-0.75	-4.09*

* significant at $\alpha = .001$

Clearly, the skew and kurtosis statistics presented in Table 3 indicate that all four of these relative frequency distributions were non-normal -- three being relatively flat and one having positive skew. However, Tabachnik and Fidell (1989) caution against blind faith in such statistics when the sample size is very large -- as is the case with these distributions. They argue that in such circumstances more attention should be paid to the absolute size of the statistics and the shape of the distribution. Although statistically significant, the maximum skew and kurtosis values were 0.76 and -0.87, respectively. Neither of these values indicates a serious departure from normality.

Remarkably there were no significant sex differences in any of the DER variables. Both groups recorded similar DER mean scores that were consistent with their RSQ responses.

Overall, sad moods were reported on 730 (i.e., 38%) of the 1920 days comprising the DER data. Moreover, on 439 (i.e., 60%) of these 'sad' days, participants reported that some event precipitated their sad mood.

Table 4.

The DER

Variable	N = 64		W = 35		M = 29		t	p
	M	SD	M	SD	M	SD		
Days	11.41	5.88	11.71	5.75	11.03	6.12	0.46	.65
Duration	4.61	1.05	4.56	1.12	4.66	0.97	-0.37	.71
Severity	5.08	1.51	5.38	1.51	4.72	1.46	1.77	.08
Event	6.86	4.25	7.60	4.48	5.97	3.85	1.55	.13
Seriousness	5.48	1.67	5.37	1.38	5.61	1.98	-0.55	.59
Responses	4.28	2.00	4.50	2.43	4.00	1.31	1.05	.30
Thoughts	2.43	1.17	2.57	1.42	2.25	0.76	1.16	.25
Behaviours	1.85	0.90	1.93	1.08	1.76	0.63	0.82	.42
Rumination	1.77	1.20	1.94	1.41	1.58	0.87	1.25	.22
Distraction	2.50	1.26	2.56	1.41	2.42	1.07	0.44	.67
Effectiveness	6.28	1.45	6.35	1.44	6.19	1.48	0.44	.66

There were similar minimum and maximum scores recorded by men and women. Over the 30-day period, the sample reported a mean of 11.41 ($SD = 5.88$) sad days, although women recorded the minimum of 1 and maximum of 25. On average, sad moods lasted up to a few hours (with a mean of 4.61 and SD of 1.05), and were moderately severe (with a mean of 5.08 and SD of 1.51). Participants recorded a mean 6.86 ($SD = 4.25$) for event precipitation of the sad mood, and seriousness was in the moderate range with a mean of 5.48 ($SD = 1.67$). The relative distribution for event seriousness was flatter than normal with positive skew. The scores were relatively evenly dispersed perhaps indicating individual differences in perception of the seriousness of events. The sample reported a mean of 4.28 ($SD = 2.00$) out of a possible 32 alternative responses to moods, and recorded a higher but non-significant mean for thoughts 2.43 ($SD = 1.17$) than behaviours 1.85 ($SD = .90$). The mean recorded for distraction 2.50 ($SD = 1.26$) was non-significantly greater than the mean recorded for rumination 1.77 ($SD = 1.20$). Three maximum scores in responses, thoughts, and behaviours, were recorded by one moderately depressed woman. On average, responses to sad moods were reported as being moderately effective with a mean 6.28 ($SD = 1.45$).

The effect of predominant response style.

The present study found no sex differences in any of the depressed mood variables. In fact, even employing a MANOVA approach to combine the outcome variables 'optimally', there were still no sex differences (these results are not reported in detail here).

However, it is important to consider whether the degree of rumination/distraction participants engaged in affected their experience of depressed moods -- as Nolen-Hoeksema's (1987) theory would strongly suggest. Thus, although there were no sex differences associated with depressed mood, it is possible that those with predominantly ruminating and distracting response styles (irrespective of gender) differed on these outcome variables. To address this question, participants were categorised on the basis of their scores on the rumination and distraction subscales of the RSQ. Specifically, if the difference score (i.e., distraction

minus rumination) was greater than or equal to 0.5, an individual was classified as a “distracter”; and if the difference score was less than or equal to -0.5, an individual was classified as a “ruminator”. Those with difference scores between -0.5 and 0.5, were deemed to have no predominant response style. As a result of this classification procedure, the sample was divided into 23 distracters, 7 ruminators, and 34 with no predominant response style.

Because the main interest was in comparing those who mainly use a distracting response style with those who mainly use a ruminating response style, the 34 participants with no predominant response style were dropped from the present analysis. Thus, the 23 distracters were compared with the seven ruminators on each of the initial measures, and on each of the outcome variables associated with depressed mood.

Once again, an alpha level of .01 was used, and the statistically significant *t* test results are presented in Table 5.

Table 5.

The Status of Distracters and Ruminators

Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Problem-solving					
Distracters	23	2.32	0.59	2.92	.00*
Ruminators	7	1.89	0.20		
BDI					
Distracters	23	6.13	4.45	-3.58	.00*
Ruminators	7	13.43	5.59		
Effectiveness					
Distracters	23	7.01	1.25	3.32	.00*
Ruminators	7	5.30	0.92		

* significant at $\alpha = .01$

Interestingly, the distracters and ruminators did not differ on any of the outcome variables of primary interest (e.g., severity of mood, duration of mood, and so on). They did, however, differ in terms of their Problem-Solving scores, BDI scores, and in terms of the effectiveness of their responses to depressed mood. In all three cases, those with a predominantly distracting response style were, on average, better off (i.e., had lower BDI scores and higher Problem-Solving and effectiveness scores).

Definitions of Episodes

The duration and severity of depressed mood are the focus of this section and the three major indices for duration are described in detail by Nolen-Hoeksema et al. (1993, p. 23-24). These indices are replicated in the present study.

Nolen-Hoeksema et al. (1993) were primarily interested in the relationship between response style and the duration of depressed "episodes". Episodes were conceptualised as relatively severe and long-lasting sad moods, possibly extending over a number of days. Thus, the cutoff points used to define whether a daily mood constituted, or contributed to, an "episode" were chosen to delineate the upper third of the severity and duration distributions -- specifically, if a daily mood was rated as having a severity greater than or equal to 4 (on the 11-point rating scale) and a duration greater than or equal to 3. Any day on which a participant reported a mood meeting these criteria, when no such mood had been reported the day before, was deemed to be the first day of an episode. Each consecutive day on which a mood meeting these criteria was reported was counted as part of the episode.

Although the same 11-point rating scales were employed to gauge the severity and duration of sad moods, participants in the present research clearly made use of higher ratings when reporting the characteristics of their moods. The corresponding upper-third cutoff points were ratings of 6 on both the severity and duration scales. Because these cutoff points differed substantially from those reported by Nolen-Hoeksema et al. (1993), the present results have been analysed separately

using each set of cutoffs. A summary of these analyses is presented in Table 6.

Using Nolen-Hoeksema et al.'s (1993) cutoffs (labelled as "Theirs" in Table 6), 61 of the 64 participants reported a total of 240 separate episodes. Individuals differed considerably in the number of episodes they reported over the 30-day period -- the maximum number reported being nine. Although the length of these episodes also varied considerably (from 1 to 12 days), the majority were relatively brief. Indeed, 76% of the episodes lasted only one or two days.

The cutoffs derived from the present research (labelled as "Ours" in Table 6) resulted in fewer and shorter episodes overall. The number of participants whose moods failed to meet the "episode" criteria entirely rose from 3 to 16. The remaining 48 participants reported a total of 186 separate episodes. Once again, the length of these episodes was typically short with 89% lasting only one or two days.

Table 6.

Total Episodes and Length of Episodes

	<u>Episodes</u>				<u>Days</u>				
	No.	Theirs	%	Ours	%	No.	Theirs	%	Ours
0	3	5	16	25	1	125	52	83	66
1	10	16	13	20	2	57	24	29	23
2	9	14	15	23	3	30	13	9	7
3	5	8	7	11	4	15	6	2	2
4	12	19	8	13	5	8	3	2	2
5	9	14	2	3	6	3	1	0	0
6	10	16	2	3	7	1	0	0	0
7	5	8	0	0	8	0	0	0	0
8	0	0	1	2	9	0	0	1	1
9	1	2	0	0	10	0	0	0	0
					11	0	0	0	0
					12	1	0	0	0

In Table 7 the results of variables that comprise those used in the episode analyses, in terms of the two criteria (“Theirs” and “Ours”) are presented with the means (*M*), standard deviations (*SD*), *t* and *p* values. The number of participants differed with some of the variables due to the different cutoffs (i.e., some participants did not experience an episode of depressed mood that reached any criteria cutoff for duration or severity). Thus, *n* denotes subgroups of participants.

Table 7.

The DER Episodes

Variable	Crit.	<i>n</i>	Women		<i>n</i>	Men		<i>t</i>	<i>p</i>
			<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>		
Episodes	Theirs	35	3.86	1.82	29	3.62	2.54	.43	.67
		35	7.60	4.06	29	6.90	5.31	.60	.55
Days	Ours	35	2.17	1.60	29	1.72	2.00	.99	.32
		35	3.20	2.48	29	2.86	2.96	.50	.62
Duration - 1		35	4.56	1.12	29	4.66	0.97	-.37	.71
Duration - 2	Theirs	34	5.22	0.95	27	5.12	1.08	.38	.70
Duration - 3		34	10.66	4.89	27	10.67	8.51	-.01	.99
Duration - 2	Ours	28	7.28	1.10	20	7.34	0.97	-.17	.86
Duration - 3		28	11.52	6.19	20	15.86	16.12	-.15	.26
Initial Episode Response and Initial Episode Severity									
Rumination	Theirs	34	2.31	1.67	27	2.00	1.05	.89	.38
Distraction		34	2.44	1.41	27	2.23	1.29	.59	.55
Severity		34	6.74	1.09	27	6.19	1.33	1.77	.08
Rumination	Ours	28	2.59	1.91	20	2.37	1.33	.45	.66
Distraction		28	2.86	1.50	20	1.92	1.26	2.29	.02
Severity		28	7.87	0.89	20	8.42	1.68	-1.33	.20

There were no significant sex differences. Different duration and severity indices (i.e., Duration 1, 2, and 3) were important due to the possibility that endorsements of short, mild, episodes of depressed mood, could distort the accuracy of the overall results for the duration and severity of episodes participants experienced over the month.

The first episode variable concerned all days participants recorded depressed mood according to both studies criteria for duration and severity, and without a mood of that level having been recorded on the previous day. Our higher cutoff criteria resulted in slightly fewer episodes per month than those found using their criteria. Our definition of an episode resulted in approximately two per month lasting up to nearly three days per episode; their definition of an episode resulted in approximately four per month lasting up to nearly two days per episode. The days comprising an episode differed also, where their criteria for days recorded a mean of 7.60 ($SD = 4.06$) for women, our criteria recorded a mean for women of 3.20 ($SD = 2.48$).

Duration and Severity

The definition and mean results of Duration variable 1 are the same as the results reported for duration recordings given in Table 4.

Duration variable 2 represents the mean duration of depressed mood recorded that met both studies definition for severity and duration. The results showed their duration definition was approximately five, and represented a few hours, however, our duration definition produced a result that was a little higher at approximately seven, but of course, our cutoff level was higher.

Duration variable 3 represents the mean duration of episodes of depression that lasted longer than one day, and fulfilled both studies definitions for duration and severity, and without the participants recording a mood that meets the cutoffs on the previous day (i.e., a participant with 2 episodes with duration's of 6, and 8, has an average episode duration of 7). The results from their definition were approximately ten for both men and women and represented a duration that lasted nearly all of the day. Ours results indicated a little higher

duration of approximately 11 for women, however, the men recorded a much higher mean of 15.86 ($SD = 16.12$). In both of the men's results for Duration variable 3, high standard deviations were found, but it was our higher cutoff criteria that was able to capture the extreme episode duration that some men experienced.

Initial Episode Response Style and Initial Episode Severity

The 'response style' theory predicts that ruminative responses early in episodes would produce longer episodes of depressed mood, than when rumination is used to a lesser degree, or when distraction is used. Again, as in Nolen-Hoeksema et al.'s (1993) study, the total number of ruminative and distractive responses on day one of each episode, were both divided by the number of episodes, in order to give a mean for, initial ruminative, and initial distractive responses, at episode onset. The same procedure was repeated to provide an initial mean for severity of sadness participants recorded on day one of each episode, in order to see whether initial severity, or initial response, would produce longer episodes of depression.

Both studies definitions produced approximately two each, initial ruminative, and initial distractive responses. These responses did not differ significantly on the first day of an episode, nor did they differ from those responses recorded across the 30 days, and furthermore, they did not result in longer episodes of depressed mood.

Both studies produced means for initial episode severity that tended to be a little higher than the average severity of sadness recorded throughout the month. Their initial severity at episode onset was approximately six, and our initial severity was approximately eight; both climbed to slightly higher levels. However, this slightly higher level of severity could be expected at the beginning of a depressive episode lasting several days, when compared to the level of severity experienced from a short depressed mood.

Regression Analyses

Regression analyses were conducted to see whether the duration of depressed episodes could be predicted from the information collected in the present study. Nolen-Hoeksema et al. (1993) reported that episode duration was predictable from (and positively correlated with) the average number of ruminating responses endorsed, irrespective of the severity of the mood. Thus, we replicated Nolen-Hoeksema et al.'s analyses, using both their definitions of episodes and our definitions, separately. The results of these regressions are presented in Table 8. In each case, the regression coefficient (b), standardised regression coefficient (β), and the individual r^2 value are given for each predictor. The overall r^2 value for each analysis is also shown. In replicating Nolen-Hoeksema et al.'s analyses, we conducted three separate sets of regression analyses -- each was associated with a different operationalisation of mood 'duration'.

In the first analysis, the dependent variable was the mean rating of mood duration averaged across all days on which a depressed mood was reported. In the second set of analyses, the dependent variable was the mean rating of mood duration averaged across only those days on which the mood met or exceeded, the cutoff criteria defining a relatively severe and long-lasting mood (see this section "Definitions of Episodes"). Two versions of this analysis were conducted -- one using Nolen-Hoeksema et al.'s cutoff criteria (labelled 'Theirs' in Table 8), and one using the criteria suggested by the present research (labelled 'Ours' in Table 8). In the third set of analyses, the dependent variable was the mean duration of depressed episodes (in days).

In each analysis, the following four predictor variables were used: (1) The mean rating of mood severity; (2) the mean number of ruminative responses made; (3) the mean number of distracting responses made; and (4) sex. In the first analysis, the first three predictors were averaged over all days on which a depressed mood was reported. In the second set of analyses, these predictors were averaged over only those days meeting the relevant cutoff criteria. Finally, in the third set of analyses, these predictors were the averages on the first day of each episode. In all analyses, predictor variables were entered simultaneously.

Table 8.

Regressions for Sex Differences In Response Styles to Depressed Mood

Predictors	Cutoffs	<i>b</i>	β	<i>r</i> ²	Cutoffs	<i>b</i>	β	<i>r</i> ²
(1) All Days								
Severity	None	0.44	0.63	.31				
Rumination		-0.04	-0.05	.03				
Distraction		0.15	0.18	.01				
Gender		-0.39	-0.19	.00				
Intercept		2.31	-	-				
Overall <i>r</i> ²				.36				
(2) Those Days Meeting Cutoffs								
Severity	Theirs	0.52	0.53	.26	Ours	0.48	0.50	.26
Rumination		0.09	0.13	.03		0.14	0.21	.04
Distraction		0.04	0.05	.00		-0.14	-0.17	.00
Gender		-0.24	0.12	.00		0.10	0.05	.00
Intercept		1.67	-	-		3.51	-	-
Overall <i>r</i> ²				.29				.32
(3) Episodes								
Severity	Theirs	1.91	0.35	.15	Ours	4.47	0.50	.27
Rumination		0.76	0.16	.04		0.85	0.12	.01
Distraction		-0.81	-0.16	.04		-0.83	-0.11	.02
Gender		-1.13	-0.08	.00		-1.29	-0.06	.04
Intercept		-0.87	-	-		-22.17	-	-
Overall <i>r</i> ²				.20				.30
(4) All Days								
Severity	None	0.44	0.63	.31				
Dangerous Acts		0.27	0.14	.11				
Effectiveness		-0.14	-0.19	.08				
Seriousness		0.02	0.03	.08				
BDI		-0.01	-0.04	.03				
LOC		0.03	0.13	.03				
Rumination		-0.23	-0.27	.03				
Age		0.02	0.17	.02				
Problem-Solving		0.33	0.16	.01				
Events		-0.02	-0.07	.01				
Distraction		0.24	0.29	.01				
Gender		-0.43	-0.21	.00				
Intercept		1.24	-	-				
Overall <i>r</i> ²				.53				

Given that there were four predictors, the sample size of 64 was above the minimum requirements for cases-to-predictor-variable ratio for regression analyses (Howell, 1992; Tabachnick & Fidell, 1989). The results showed that of the four predictor variables, only severity of sadness was an important and significant predictor of the duration of depressed mood; maintaining statistical importance in all of the regression analyses and on its own accounting by far for the greatest proportion of the variance in each equation (ranging between 75% and 90% of the explained variation, with a mean of 84%). The other three predictors (those central to Nolen-Hoeksema's theory) had considerably less predictive value, accounting for an average of only 16% of the explained variation in mood duration, although rumination did consistently account for a small portion of the variance (3-4%) in the first three regressions.

The first three regression analyses had r^2 values ranging from .20 (Analysis 3) to .36 (Analysis 1) for the variance in duration variables for depressed mood, indicating only moderate predictive ability. However, in the second and third analyses, higher r^2 values were obtained using our definitions, thus giving better predictive ability.

Finally, we conducted an admittedly exploratory regression analysis including all available predictor variables from the present study. The purpose of this analysis was to see whether any of the initial measures and the additional DER measures were able to better predict mood duration. The exploratory regression analysis used Duration variable 1 as the dependent variable (the mean rating of mood duration averaged across all days on which a depressed mood was reported) and the 12 predictor variables comprised: Initial measures, DER variables, and the demographics of gender and age. Adding these new predictors into the regression equation resulted in a small increase in the overall r^2 from .36 to .53.

Severity remained the most important and significant predictor of depressed mood duration and again accounted for most of the variance. The adjusted r^2 values (adjusted for the number of predictor variables) for the first and last regressions were .32 and .37, respectively. Thus, highlighting the very small increase (i.e., only 5%) in predictive power when eight additional predictor variables were included. Furthermore,

the predictor 'dangerous acts' was the only predictor that added any predictive value and even then, only a small amount.

To summarise the results, the main finding from the present study was the complete absence of sex differences in any of the parameters of depressed mood (e.g., severity and duration).

Female and male participants reported similar locus of control orientation, response styles, and experienced similar levels of depression. The responses of the vast majority (91%) of the participants to depressed moods were consistent across the month. In general, the more serious the life event, the less likely a participant was to engage in distracting responses. The RSQ indicated that participants used distractive responses first, and dangerous activities last. A relatively minor sex difference emerged in the second and third response preferences; women chose problem-solving and then rumination, whereas for men this ordering was reversed.

Over the 30-day period, there were on average approximately 11 sad days of moderately severe moods lasting up to a few hours, which were precipitated by approximately seven moderately serious events. Approximately four moderately effective responses were used when participants responded to their sad moods, with distraction being used most often. Participants who engaged in predominantly distracting responses were better off in terms of a small number of peripheral outcome variables. Women did not use rumination predominantly, nor did men use distraction predominantly. Both groups used approximately similar responses, and frequency of response. The DER endorsements were consistent with initial RSQ endorsements.

The episode variables produced different results due to the two sets of mood severity and duration definitions employed. Compared with the use of Nolen-Hoeksema et al.'s (1993) cutoff scores, the higher cutoff scores developed from the present results captured the longer, more severe depressed moods experienced by participants.

Our definition produced approximately two episodes per month that lasted up to approximately two days. Nolen-Hoeksema et al.'s (1993) definition produced approximately four episodes per month that lasted up to approximately two days. The initial ruminative and distractive

responses, and mood severity on the first day of an episode did not predict the duration of depressed mood.

In all regression analyses severity of sadness was the most consistently significant and the most important predictor of the duration of depressed mood. The number of ruminative and distractive responses and gender had considerably less predictive value.

DISCUSSION

The purpose of the present study was to replicate and extend the observational study conducted by Nolen-Hoeksema et al. (1993) to test the hypotheses that Nolen-Hoeksema's 'response style' theory is based on. Two central elements of her theory are: (1) That using rumination or distraction in response to a depressed mood can profoundly affect the parameters of the mood, particularly its duration; and (2) that women tend to be ruminators and men tend to be distracters. Taken together, Nolen-Hoeksema (1987) argues that these two elements go some way toward explaining the higher incidence of depression among women. Using a New Zealand sample, we found only weak support for the first proposition -- distraction was more effective; but only in terms of a small number of variables of less importance in relation to the parameters of depressed mood. However, there was absolutely no support for the second proposition -- there were no sex differences in any of the initial measures, parameters of depressed mood, nor in responses to depressed mood. Thus, the present findings stand in stark contrast to those reported by Nolen-Hoeksema et al. (1993).

The vast majority of participants produced temporally consistent DER responses, that were also consistent with their initial RSQ responses. Our extension of the DER provided evidence that participants' coping responses were moderately effective, and that moderately serious life events precipitated most of the sad moods. The number and type of responses were largely unrelated to whether an event precipitated the sad mood, but the more serious the event, the less likely were distracting responses to be used.

Responses used at episode onset did not differ significantly over the month, nor significantly prolong episodes when compared to those used throughout the month. Severity of sadness was by far and away the most important and significant predictor of depressed mood with rumination, distraction, and gender considerably less important. This finding emerged from all regression analyses, irrespective of cutoff scores.

Because the majority of the sample exhibited consistent levels of ruminative and distractive responses to depressed moods over the month,

it seems reasonable to conclude that the response styles of this student population represent a consistent sample of their cognitive and behavioural responses to depressed mood.

There was no support for Nolen-Hoeksema's (1987) claim that a ruminative response style is associated with longer and more severe episodes of depressed mood than is a distractive response style. Response style was not significantly related to gender, although the degree of rumination and distraction individuals engaged in was associated with different outcomes. A distractive response style was more beneficial than a ruminative response style in terms of three variables of peripheral interest (the initial RSQ problem-solving subscale, the BDI, and the effectiveness of responses). These outcomes are not actual parameters of depressed mood. Thus, the women in the sample didn't predominantly use a ruminative response style -- instead, both men and women used distraction to a greater extent than rumination, and both used approximately four responses to a given depressed mood.

Furthermore, because there were no sex differences in response style, sex was not associated with duration or severity of depressed mood. In fact, it was the severity of sadness that predicted depressed mood duration for both men and women. Considering all of the sad moods reported in the present research, the correlation between mood duration and mood severity was .55. This appears intuitively reasonable as, in general, the more severe the mood, the longer we might expect it to last. The relationship is not perfect though, so obviously there are some instances of short severe moods and long mild moods as well.

The reasonably high cutoff criteria for episode duration and severity developed from the present results meant we tended to capture the longer and more severe depressed moods participants experienced. Forty-eight of the 64 participants experienced at least one episode that met our criteria; compared with 61 of 64 participants that experienced at least one episode meeting Nolen-Hoeksema et al.'s (1993) criteria. Irrespective of the criteria used, depressed episodes tended to be short -- the vast majority lasted for no more than two days.

The type of response used on the first day of an episode was no different to those used throughout the month, and did not affect the episode duration. The severity of the mood on the first day of an episode

was nonsignificantly higher than that recorded at other times. Somewhat surprising, because we might have expected more of a difference. Nevertheless, mood severity level at episode onset also did not affect the duration of the episode.

In extending the DER to overcome some shortcomings evident from Nolen-Hoeksema et al.'s (1993) study, we have gained additional information regarding some pertinent aspects of depressed mood: The effectiveness of responses used, whether an event triggered the mood, the seriousness of the event, and whether the seriousness of the event predicted the response to the mood. Individuals mostly considered their responses were moderately effective in alleviating the depressed mood, and over two-thirds of the sad days were precipitated by moderately serious life events. There was some variation in the perceived seriousness of events. However, in addition to actual differences in event seriousness, some of this variation may have resulted from individual differences in perceptions and experiences of life events and their seriousness.

The number and type of responses used was largely unrelated to whether an event precipitated the sad mood. However, there was a weak relationship with the seriousness of an event. The fact that the more serious the event, the less likely participants were to engage in distracting responses may indicate it was more difficult for some to distract after a severe event. This, too, seems an intuitively reasonable finding. Events of a very serious nature may prompt more mood-centred thoughts and behaviours.

All of the regression analyses produced a consistent pattern of results. Neither the frequency of ruminative or distracting responses, nor gender, were predictive of the duration of depressed mood. The severity of sadness powerfully outweighed any minor contribution made by rumination, distraction, and gender. Once again, these findings are at odds with those reported by Nolen-Hoeksema et al. (1993).

A Comparison with Nolen-Hoeksema et al.'s (1993) Findings

The main conclusions of Nolen-Hoeksema et al.'s (1993) study confirmed two central elements of her theory. Firstly, they found support

for two consistently used response styles of distraction and rumination that could affect the duration of depressed mood, and that rumination prolonged depressed mood to a greater degree when severity of the mood was statistically controlled. Secondly, they found sex differences in the type of response style used. Women used ruminative responses to a greater degree than men did, and women had more severe and longer lasting depressive experiences; however, they found no significant sex differences in the use of distractive responses.

Although we have analysed some of our results using two sets of cutoffs ("Theirs" and "Ours" -- one set derived from Nolen-Hoeksema et al.'s (1993) definitions of a 'serious' depressive mood, and the other set derived from the present data in an equivalent manner), the pattern of results is unaffected. This pattern of results is clearly at odds with Nolen-Hoeksema et al.'s (1993) findings, in a number of substantial regards.

Although the present results were in agreement with Nolen-Hoeksema et al.'s (1993) in the high consistency of response style to depressed mood over the 30-day period, there was no evidence supportive of a consistent gender-specific response style to depressed mood.

Contrary to Nolen-Hoeksema et al.'s (1993) findings, we did not find that women employed significantly more ruminative responses than men, nor that women experienced significantly more severe and longer lasting depressed moods, or depressive episodes, than men did.

Similar to Nolen-Hoeksema et al.'s (1993) findings, we found no significant sex differences in the frequency of distractive responses over the month. However, we did find that both men and women used distraction mostly as a response. There were differences between participants classified as "ruminators" and "distracters", but only in terms of three variables, none of which directly related to the reported depressed moods. Thus, the present results provide at best weak support for this element of Nolen-Hoeksema's (1987) theory.

Furthermore, and contrary to Nolen-Hoeksema et al.'s (1993) results, neither response style nor gender were significant predictors of the duration of depressed mood. Instead, severity of sadness was by far and away the most useful predictor of the duration of depressed mood.

Possible Reasons for the Different Findings

There are several possible reasons for the different findings between the two studies. Due to a lack of detailed information in the Nolen-Hoeksema et al. (1993) study concerning the relative frequency distributions and initial measures, strict comparisons are impossible. Nevertheless, methodological and statistical differences are worth considering, given the dissimilar outcomes.

Power.

Given our failure to replicate Nolen-Hoeksema et al.'s (1993) findings, it is important to consider the issue of statistical power. If the power of the present research were considerably lower than that of the Nolen-Hoeksema et al. study, it might explain the present 'null' results. However, this was not the case -- the statistical power of the two studies were a similar and acceptable level. Assuming a medium effect size (i.e., Cohen's $d = .50$) and alpha level of .05, the estimated power of the present research to detect a one-tailed sex difference was a respectable .63. Although Nolen-Hoeksema et al. did not report it, the corresponding power of their study was only slightly higher at .71 (their sample comprised 36 women and 43 men). Thus, statistical power is unlikely to be the cause of the discrepant findings.

The DER.

The DER response categories used by Nolen-Hoeksema et al. (1993) were found to include unequal numbers of ruminative thoughts and behaviours. If unequal numbers of alternatives are presented for participants to choose among, the resulting frequencies could be biased in favour of the more common response style. Thus, in the present research we ensured there were an equal number of cognitive and behavioural ruminative and distractive response choices, as this seemed a fairer option for a forced choice questionnaire. However, it is difficult to see how this improvement could be responsible for the discrepant findings, because

this would require that the female and male participants in Nolen-Hoeksema et al.'s (1993) study responded systematically differently to the unequal distributions of response alternatives.

Cutoff scores.

Another factor that must be eliminated as a possible reason for the dissimilar findings is the different DER cutoff levels that were used in the determination of depressive experiences between both studies. However, the present DER data were analysed in terms of both sets of cutoff criteria -- those used by Nolen-Hoeksema et al. (1993) and those derived from the present data -- and no sex differences emerged in either analysis. Thus, the different cutoff criteria cannot be the cause of the discrepant findings.

Cultural differences.

In addition to cultural differences in the level and experience of depressive symptoms, there may be cultural differences between the New Zealand and American students which influenced their response to the research. Such differences are difficult to assess and as a result, are less trustworthy differences to remark upon. For example, students did not receive course credit for participation in the present study. Possibly, then, there may have been differences in response compliance (the cooperative-subject effect; Kirk, 1995) between the studies due to cultural and academic factors. Cultural differences can influence depressive symptoms through language, beliefs, values and experiences (APA, 1994; Rippere, 1977). Thus, cultural differences cannot be ruled out as possible sources of influence in the dissimilar outcomes. Even so, in terms of cross-national comparisons for MDD, New Zealanders have higher rates of depression compared to the USA, and yet in the present research there were no sex differences in levels of depression, nor in response styles to depressed mood.

Relating the Present Findings to the Extant Literature

The findings from the present study can be related generally to some of the findings and problems raised in the empirical literature concerning: Student samples, mild depression, anxiety comorbidity, the evidence for sex differences in response styles to depressed mood, ruminative and distractive response styles, and life events.

Student samples.

Many depression researchers have voiced concern over the use of student samples in the investigation of relationships between depressed mood and other phenomena (as discussed previously in the "General Problems in Depression Research" section). There has been inconsistent empirical evidence for any clinically significant levels of depression (mostly mild depression and/or confounded dysphoric states), and sex differences in depression, in student samples (Nolen-Hoeksema, 1987; Tennen et al., 1995). Nolen-Hoeksema et al.'s (1993) student sample produced a reasonable effect size and confirmed her expectation of a gender-specific response style to depressed mood. However, even while using a student sample with additional evidence that most participants had experienced only minimal to mild levels of depression -- we still did not find a gender-specific response style to depressed mood.

Lack of access to a clinical population group, and financial resource constraints at this level of research can inhibit rigorous investigation in compliance with depression research recommendations. Furthermore, some investigators report that depression in student samples is not qualitatively different from psychiatric populations, and claim the academic environ and related stressors are sufficient for their use when sample size and power would otherwise be small (Kendall & Flannery-Schroeder, 1995; Vredenburg et al., 1993; cited in Tennen et al., 1995).

Mild depression.

Many investigators have questioned whether depression in student samples is similar in many respects to depression found in clinical

populations. This is an area of ongoing debate. In other words, were the mildly depressed experiences of our university students similar in frequency and degree to those experienced by depressed clinical population groups? Even using high cutoff levels for BDI scores in an attempt to eliminate false positives as recommended by Beck et al. (1988), we found only minimum and mild levels of depression. Therefore, we can reasonably conclude that most of the sample were not suffering from clinically severe levels of MDD, but from mild levels of depression and depressed mood.

Nolen-Hoeksema et al.'s (1993) findings concerning individual depressive experiences stand alone, as there is no indication that any initial measures were used to ascertain levels of depression in the sample. Such measures would add support for the sex differences in meaningful levels of depressed mood in their diary study. Tennen et al. (1995) identified deficiencies in three studies where Nolen-Hoeksema and colleagues investigated the response style theory and depression; one deficiency noted was not providing multiple assessment for levels of depression.

Similar to Nolen-Hoeksema et al. (1993), we endeavoured to conceal our primary interest in depressed mood, emphasising a range of moods. Additionally, the present study included three initial measures (BDI, RSQ, LOC). These produced a consistent result for no sex differences in: (1) Levels of depression; (2) in reported response style; (3) in locus of control orientation, particularly externality, which Benassi et al. (1988) found has been associated with increased levels of depression. Thus, these findings are consistent with, and increase our confidence in finding, no sex differences in this mostly mildly depressed sample.

Anxiety comorbidity.

The comorbidity between anxiety and MDD has been well-documented empirically to influence the observed rates of depression for women, and to play a role in the progression and expression of MDD in women (Wells et al., 1989; Wilhelm et al., 1997). Breslau et al. (1996) found anxiety accounted for a large portion of the sex differences in depression and not coping styles. Thus, in the absence of any anxiety

control, the minimum and mild levels of depression reported, may have been confounded with states of anxiety, but even so, there were still no sex differences.

Nolen-Hoeksema's studies concerning the 'response style' theory and depressed mood have been criticised on methodological grounds by Tennen et al. (1995) for using no anxiety control. Thus, it remains unclear from the findings of both studies ("Theirs" and "Ours"), whether or not individuals would respond differently, if they had been assessed as suffering from clinically moderate and severe levels of depression. However, research with students who suffer from mild levels of depressed mood and/or dysphoric states can provide vital evidence for the identification of numerous influential factors that can lead to more severe depression. Nonetheless, whether mild depression and/or dysphoric states are indicative of the type of mood experienced with MDD are ongoing areas of debate in depression research.

Evidence for sex differences in response styles to depressed moods.

Problem-focused and emotion-focused coping overlap considerably and have sub-categories, but research findings concerning coping have generally indicated that women use mostly emotion-focused coping and men use mostly problem-focused coping (Carpenter, 1992; Folkman, 1984; Hanninen & Aro, 1996; Nolen-Hoeksema, 1990; Nolen-Hoeksema et al., 1991).

However, similar to the first controlled study of Nolen-Hoeksema's (1987) 'response style' theory, we found sex similarities in coping response, with distraction used mostly. Contrary to Billings and Moos (1984; cited in Bebbington, 1996), and what the coping literature has generally indicated, men did not use more problem-focused coping than women, and women did not use more emotion-focused coping than men. Both men and women used distraction mostly, which the coping literature indicates are responses defined as emotion-focused ways of coping. In the present study some participants indicated on the DER other coping responses they used, for example crying, eating, 'retail therapy', sleeping, using drugs and alcohol, anger ventilation, seeking professional help,

prayer, and meditation. The majority of these have been termed as dysfunctional ways of coping by Hanninen and Aro (1996) and Kleinke et al. (1982), however, the last three responses listed indicate some ways of coping that were adaptive (but uncaptured by the available response categories). Furthermore, as Folkman (1984) has pointed out, prayer and meditation comprise a new burgeoning area of coping research.

Our findings of no sex differences in locus of control orientation disagrees with the evidence that suggests this characteristic is an aspect of personal disposition that contributes to one explanation for the sex differences in coping (Hanninen & Aro, 1996).

Ruminative and distractive response styles.

The high consistency in response style shown over the 30-day period tends to argue against Delonghis et al.'s (1992) suggestion that the repetitive nature of diary recordings may result in some participants changing their usual responses because of therapeutic gains they may begin to experience. However, the possibility remains that participants may use different coping styles in response to their depressed moods depending on the context, resources, and time constraints they experience (Folkman, 1984).

Looking at the type of response individuals use to cope with life events and stressors, empirical evidence has suggested that distraction may be an effective short-term coping strategy (Carver et al., 1989; cited in Nolen-Hoeksema, 1991). Although half of the present sample used rumination and distraction to an equal degree, the other half predominantly used distraction as a response. The 'distracters' were better off in terms of three peripheral variables unrelated to depressed mood: The initial RSQ problem-solving subscale, the BDI, and the effectiveness of responses. There was a weak but statistically significant indication that distraction is employed more frequently after a less serious precipitating life event than after a more serious precipitating life event. This finding adds some support for the notion that distraction is effective as a short-term response, at least in response to milder depressed moods.

Therefore, although not supportive of Nolen-Hoeksema's (1987) gender-specific 'response style' theory, there was some weak support for

the benefits of a distractive response style. This aligns with the empirical evidence that this style of coping is a functional one. Of course, this evidence does not implicate a ruminative coping style to depressed mood as dysfunctional for three reasons: Firstly, the lack of research on the concept of rumination with clinically controlled population groups; secondly, the association between rumination possibly leading to increased insight; and thirdly, the lack of diagnostic threshold information that indicates maladaptivity across contexts regarding 'obsessive rumination' as Klein et al. (1993) have pointed out.

Life events.

Acknowledging that coping style cannot be understood simply as an end-product of behaviour without consideration of other variables, the present findings support the large body of evidence for the important role played by life events in the precipitation of depressed moods (Bebbington, 1996; Kessler et al., 1997; McGrath et al., 1990). Thus, although restating what Hammen (1992) considers obvious (i.e., that life events are related to depression), well over two-thirds of the sad days reported in the 30-day period were the result of moderately serious life events.

However, our findings of no sex differences in the number of life events, responses to life events, nor perception of the seriousness of life events runs contrary to some of the evidence that suggests these may explain the female preponderance in depression (Hammen et al., 1981; Spangler et al., 1996). Furthermore, these results run contrary to Nolen-Hoeksema et al.'s (1993) suggestion that women's ruminative tendencies are related to the greater seriousness of life events they encounter.

Many participants described the causes of their depressed moods on the DER forms and, although these were not analysed, -- most related to interpersonal factors, some of which were quite traumatic, (e.g., family bereavements, family and academic pressures). These provided some idea of the types of life events encountered that, in combination with other provoking factors, could lead to more severe depressive experiences.

Limitations and Future Research Objectives.

The lack of representativeness of the present sample limits generalisation of the present study's findings outside this particular group, for several reasons that depression researchers see inhibiting progress for associated features in MDD. In addition, the findings should also be tempered by questions about the validity of the measurement indices used and general problems related to the categorisation of different ways of coping. However, these caveats aside, it is likely that information relating to mild levels of depression can help highlight variables that may cause and prolong depressed moods.

The RSQ and the DER.

The RSQ requires further work to improve its presentation as a valid and fair measure for people to record their cognitive and behavioural response to depressed mood. Firstly, the four subscales have unequal numbers of items in each, and secondly, many items individuals may choose to record belong to no subscale at all. Of particular concern, rumination items outnumber distraction items by 22 to 11. Moreover, the critical nature of the response style metric is clearly evident when one considers the different outcomes produced by different scoring systems (as detailed previously in the Results subsection, "Summary of Measures").

Similarly, the original DER is a flawed measure. The DER has two main response categories for depressed moods (rumination and distraction) but they overlap, could be sub-categorised, and don't capture some types of responses. Thus, difficulties arise in the generalisation of coping styles found using these indices.

The DER could include four improved response categories that give more clear indications for: Ruminative responses, distractive responses, problem-solving responses, and extreme types of behavioural activities. These could then isolate responses that appear to be distractive and positive, but are maladaptive extremes of behaviour. Interestingly, unprompted responses recorded by some on their DER forms were not

included in any RSQ subscale, and did not fit into any category listed in the DER. Many of these responses are dysfunctional according to some investigators (e.g., alcohol abuse), although some (e.g., prayer and meditation) were clearly used as part of a problem-solving strategy. Hence, the need for further improvement in the RSQ and DER measures to tap into the full range of individual response to depressed moods.

The additional inclusion of a cognitive questionnaire, an anxiety measure, and other demographic questions (e.g., socio-economic status, marital status, roles, etc.) would help assess the impact these have upon depressive experiences. The use of a post measure would assist in discerning any therapeutic change that can emerge from repetitive diary recordings about coping responses. Also, ascertaining an individual's response style in relation to depressed mood may require a diary-period considerably longer than 30 days -- although we found that response styles were relatively consistent over the 30-day period, a longer period would presumably allow a greater range of depressive moods and thus responses to be recorded and examined.

One aim of the present study was to improve the RSQ and DER measures to some degree, and incorporate life events as possible precipitators of depressed mood, and these provided some valuable information. However, additional information could be gained by including some categories for types of life events (e.g., interpersonal, financial, academic), and the length of time individuals engaged in the response chosen. Examining the data in terms of particular days of the week associated with depressed mood may be informative too (e.g., Monday 'blues', mid-week and weekend 'highs'). However, the obvious difficulties in trying to include all possible variables in researching an aetiologically comprehensive condition like MDD are acknowledged.

Final Summary

Firstly, the present study reviewed the evidence for a sex difference in depression since Nolen-Hoeksema's (1987) review. There appears to be no single factor from any explanatory perspective that accounts for the female preponderance in depression. Methodological

and artefactual problems influence prevalence rates. Studies that focus upon the interactive nature of variables in relation to depression from different perspectives are particularly informative. Secondly, Nolen-Hoeksema's (1987) 'response style' theory was introduced as a cognitive causal explanation for the sex differences in depression and the female preponderance in depression. However, the present study found no sex differences in response styles to depressed moods, depressive episodes, or the effectiveness of responses. Additionally, there were no sex differences in the number and seriousness of precipitating life events. However, participants exhibited a high degree of consistency in response style over the 30-day period and those using a predominantly distractive response style were at an advantage in terms of a small number of outcome variables including the effectiveness of their responses in combating sad moods.

Thus, the results did not support Nolen-Hoeksema's (1987) gender-specific 'response style' theory. Rumination, distraction, and gender were uniformly poor predictors of the duration of depressed mood, whereas severity of sadness allowed good prediction. Overall, our findings differ from Nolen-Hoeksema et al.'s (1993) in many important regards even though we replicated their procedures and improved the quality of their measures.

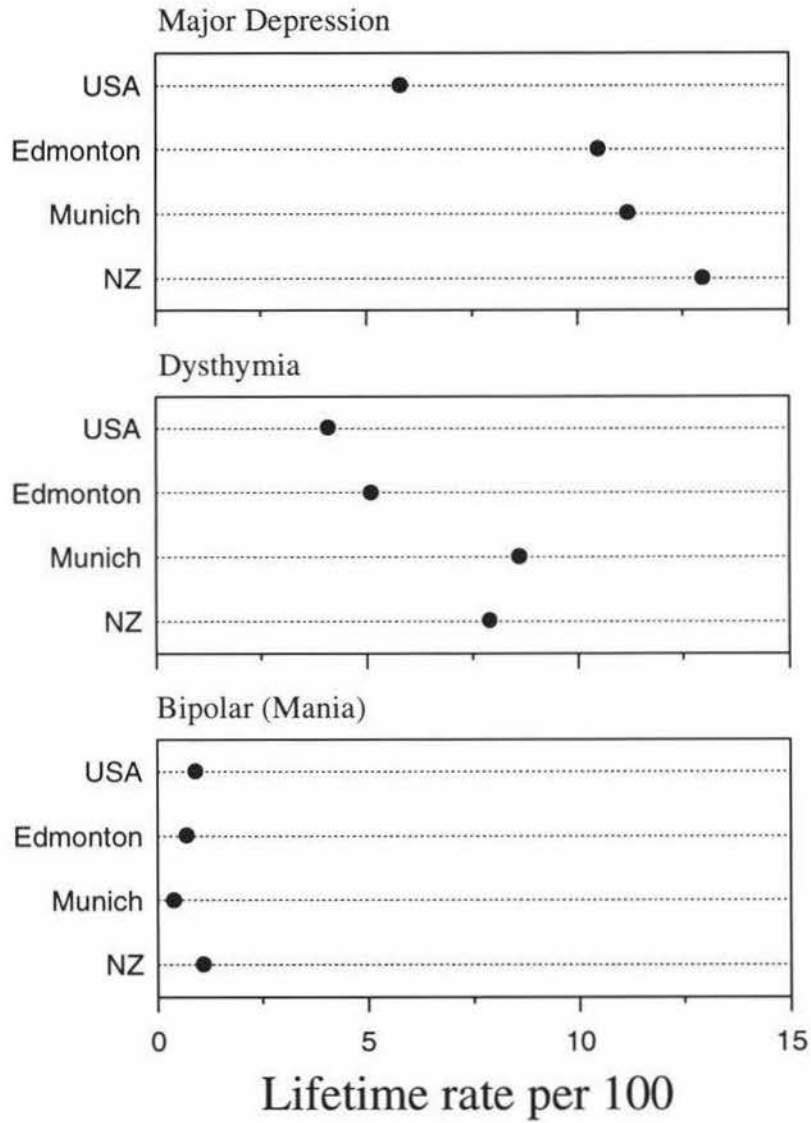
Thus, future studies focusing on the relationship between coping and depression should address the following factors: The use of a clinical sample; the comorbidity of anxiety and depression should be controlled for; a multiple assessment of depression should be used; and a comprehensive coping index should be included. In particular, greater attention should be paid to the kinds of thoughts and behaviours that comprise a specific coping category as defined by the coping literature. These improvements would assist in ascertaining whether there are dysfunctional and functional ways of coping in relation to depressed moods, as well as any gender-specificity. Methodological recommendations for research on depression were not accessed until the present study was underway but are noted for future research objectives.

Finally, the purported relationship between rumination and depressed mood must be clarified before rumination can be viewed as a 'causal' factor in determining parameters of depressed moods, and in

explaining the female preponderance in depression, as claimed by Nolen-Hoeksema (1987). At present, the evidence for this 'relationship' is clearly equivocal.

APPENDIX A

Dot plots showing the cross-national lifetime rates (per 100 population) of the various mood disorders. These rates have been standardised to the US age and sex distribution.



Source: Weissman, M. M., Bland, R., Joyce, P. R., Newman, S., Wells, J. E., & Wittchen, H. U. (1993).

APPENDIX B

Christchurch Psychiatric Epidemiology Study: Part 1.

Disorders (DIS codes)	Overall (n=1498)	Males (n=504)	Females (n=994)
Main ECA Diagnoses			
Substance use disorders	21.0 (1.3)	33.6 (2.4)***	8.7 (1.0)
Alcohol abuse/dependence (2-4)	18.9 (1.3)	32.0 (2.3)***	6.1 (0.9)
Drug abuse/dependence (2-7)	5.7 (0.7)	7.2 (1.4)*	4.1 (0.7)
Schizophrenia/Schizophreniform disorders	0.4 (0.2)	0.3 (0.5)	0.5 (0.3)
Schizophrenia (3.5)	0.3 (0.2)	0.3 (0.5)	0.4 (0.3)
Schizophreniform (3.5)	<0.1 (0.1)	0.0 (0.4)	0.1 (0.2)
Affective disorders	14.7 (1.0)	10.0 (1.5)***	19.4 (1.5)
Manic episode (3.5)	0.7 (0.3)	0.5 (0.6)	0.9 (0.4)
Major depressive episode (3.5)	12.6 (1.0)	8.8 (1.4)***	16.3 (1.3)
Dysthymia (3.5)	6.4 (0.7)	3.8 (0.7)***	9.0 (1.0)
Anxiety/somatiform disorder	10.5 (0.9)	4.4 (1.1)***	16.5 (1.3)
Phobia (agora- or simple) (3.5)	8.1 (0.8)	3.4 (1.0)***	12.8 (1.2)
Panic (3.5)	2.2 (0.4)	0.9 (0.6)**	3.4 (0.7)
Obsessive-compulsive (3.5)	2.2 (0.4)	1.0 (0.7)*	3.4 (0.7)
Somatization (3)	<0.1 (0.1)	0.0 (0.4)	0.1 (0.2)
Anorexia (3)	0.1 (0.2)	0.0 (0.4)	0.3 (0.3)
Antisocial personality (3.5)	3.1 (0.5)	4.2 (1.1)	1.9 (0.5)
Cognitive impairment (severe) (3)	<0.1 (0.1)	0.0 (0.4)	0.1 (0.2)
Any of the above	36.6 (1.5)	39.6 (2.4)*	33.7 (1.7)
Any above except phobia	32.9 (1.5)	38.7 (2.4)***	27.3 (1.7)
Any above except substance use disorders	22.9 (1.2)	15.7 (1.8)***	29.9 (1.7)
Additional Diagnoses			
Social phobia (3.5)	3.0 (0.6)	4.3 (1.1)	3.5 (0.7)
Phobia including social phobia (3.5)	10.7 (0.9)	6.8 (1.3)***	14.6 (1.3)
Generalised anxiety (3.5)	31.1 (1.3)	27.1 (2.1)**	35.1 (1.7)
Gambling (3.5)	0.4 (0.2)	0.5 (0.6)	0.2 (0.3)
Sexual dysfunction (3.5)	33.2 (1.4)	22.3 (2.0)***	43.9 (1.9)
Bulimia (3.5)	1.0 (0.3)	0.2 (0.5)*	1.9 (0.5)
Eating disorder (Bulimia or anorexia)	1.2 (0.4)	0.2 (0.5)**	2.1 (0.6)
Any disorder covered	65.8 (1.4)	63.0 (2.4)	68.5 (1.7)

*** p<0.001 ** p<0.01 *p<0.05 for comparisons between males and females

Using the Bonferroni correction for multiple comparisons a per comparison $\alpha = 0.05/29 = 0.0017$ should be used to keep the overall α at 0.05

Source: Wells, J. E., Bushnell, J. A., Hornblow, A. R., Joyce, P. R., & Oakley-Browne, M. A. (1989).

APPENDIX C

Temporal Trends In Rates Of Major Depression

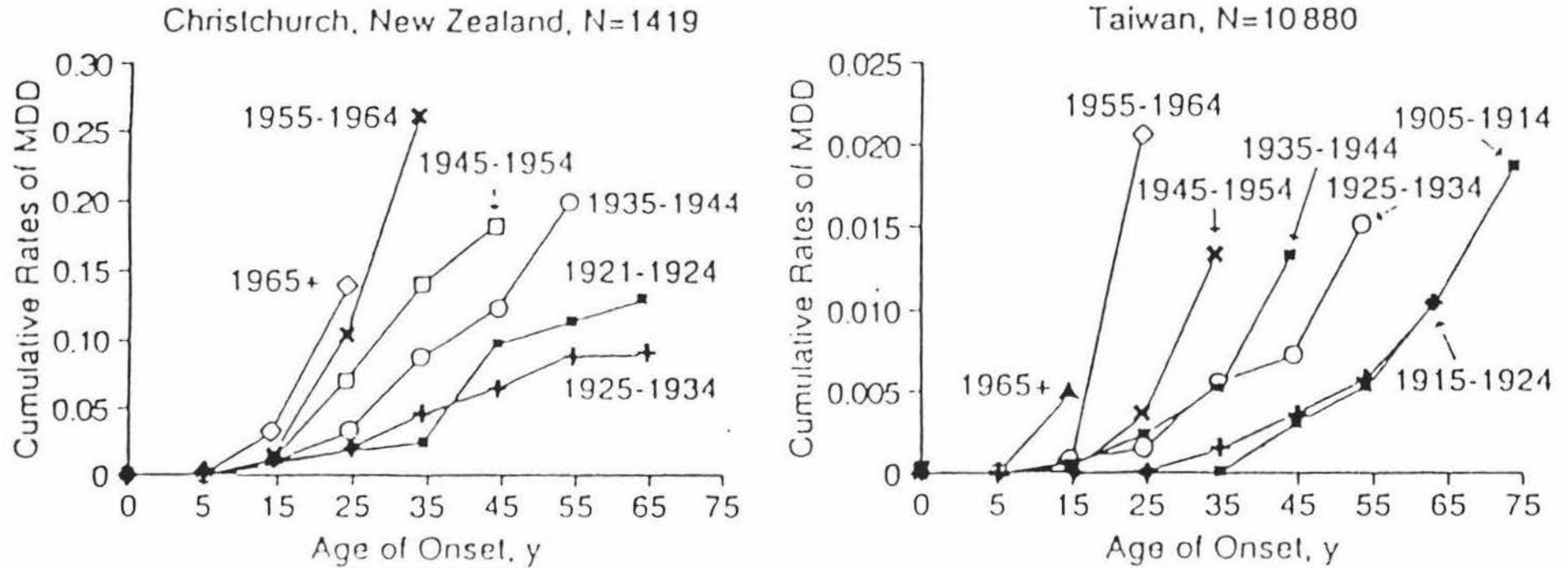


Fig 4.—Cumulative lifetime rates of major depression by birth cohort and age of onset—Asia and the Pacific Rim. MDD indicates major depressive disorder.

Source: Cross-National Collaborative Group. JAMA. 1992.

APPENDIX D



MASSEY
UNIVERSITY

A L B A N Y

DEPARTMENT OF PSYCHOLOGY

Information Sheet

Research Project: Daily Experience of Emotion

Researcher:

Suzanne Madsen
Department of Psychology
Massey University Albany
Telephone: (09) 424-2343

Supervisor:

Dr Philip Voss
Department of Psychology
Massey University Albany
Telephone: 443-9663

This sheet provides information about a study that investigates the relationship between the characteristics of people's daily moods and their responses to these moods.

If you agree to participate in this study, you will be asked to keep track of your naturally occurring moods, and your responses to these moods, on a daily basis over a period of 30 consecutive days. At approximately the same time each day, you will fill out a Daily Emotion Report that asks a number of questions about moods you may have experienced that day. Filling out each Daily Emotion Report will take only a couple of minutes.

Prior to the start of the study, you will be asked to attend a half-hour orientation session at which time the details of the Daily Emotion Report will be explained to you, and any questions you have about the study will be answered. During the orientation session, you will also be asked to complete a number of short questionnaires.

If you agree to participate in this study, you have the right to:

- ☐ Refuse to answer any particular question, and to withdraw yourself or any information you have provided from this study (before data collection is completed), without having to give reasons and without penalty of any sort.
- ☐ Ask any questions about the study that occur to you during your participation.
- ☐ Provide information on the understanding that it is completely confidential to the researcher. All information is collected anonymously, and it will not be possible to identify you in any reports that are prepared from the study.
- ☐ Be given access to a summary of the findings from the study when it is concluded.

APPENDIX E



MASSEY
UNIVERSITY

A L B A N Y

DEPARTMENT OF PSYCHOLOGY

Consent Form

Research Project: Daily Experience of Emotion

I have read the Information Sheet for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I am free to decline to answer any particular questions in the study, and to withdraw myself or any information I have provided from this study (before data collection is completed), without having to give reasons and without penalty of any sort. I agree to provide information to the researcher on the understanding that it is completely confidential.

I wish to participate in this study under the conditions set out on the Information Sheet.

Signed:

Name:

Date:

APPENDIX F

Questionnaire 1

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you generally do, not what you think you should do.

Almost Never	Sometimes	Often	Almost Always	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ask someone to help you overcome a problem.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Write about your feelings in a diary or journal.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think of how someone (or some fictional character) you respect would deal with your situation.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I'm not going to think about how I feel".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how alone you feel.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I won't be able to do my job/work because I feel so badly".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about your feelings of fatigue and achiness.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how hard it is to concentrate.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Try to find something positive in the situation or something you learned.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "People will see what I'm really like".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Take recreational drugs or drink alcohol.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I'm going to do something to make myself feel better".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Help someone else with something in order to distract myself.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "What am I doing to deserve this?".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how passive and unmotivated you feel.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remind yourself that these feelings won't last.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I am embarrassing my family/friends/mate".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Analyse recent events to try to understand why you are depressed.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how you don't seem to feel anything any more.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Daydream, fantasize, or think about good things.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "Why can't I get going?".

Almost Never	Sometimes	Often	Almost Always	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "Why do I always react this way?"
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Watch TV to distract yourself.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Go to a favourite place to get your mind off your feelings.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Go away by yourself and think about why you feel this way.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Talk it out with someone whose opinions you respect.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I'll concentrate on something other than how I feel".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Write down what you are thinking about and analyse it.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do something that has made you feel better in the past.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about a recent situation, wishing it had gone better.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I'm going to go out and have some fun".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Make a plan to overcome the problem.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stay around people.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I am ruining everything".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Concentrate on your work.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "There must be something wrong with me or I wouldn't feel this way".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I am disappointing my friends/family/mate".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Deny how you are feeling.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I've ruined another school year/job/relationship".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "Why do I have problems other people don't have?".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do something reckless or dangerous.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "Why can't I handle things better?".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how sad you feel.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about all your shortcomings, failings, faults, or mistakes.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do something you enjoy.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how you don't feel up to doing anything.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I have no right to feel this way - I am really selfish".

Almost Never	Sometimes	often	Almost Always	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "My friends are getting sick of me and my problems".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Call your counsellor to talk about your feelings.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Decide to try to improve some area of your life.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I am disappointing God".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do something fun with a friend.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Analyse your personality to try to understand why you are depressed.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Go to sleep to escape how you feel.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Take your feelings out on someone else.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Go somewhere alone to think about your feelings.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Deliberately do something to make yourself feel worse.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Eat.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pray.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Read.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how angry you are with yourself.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think about how angry you are with someone else.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think back to other times you have felt depressed.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Take prescription medications to make yourself feel better.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I've got to get things under control".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "No one wants to be around me because of my mood".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Listen to sad music.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Isolate yourself and think about the reasons why you feel sad.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Think "I must really have serious problems or I wouldn't feel this way so often".
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Try to understand yourself by focusing on your depressed feelings.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do something active to get your mind off your feelings.

.....

Questionnaire 2

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered A or B. Please select the one (and only one) statement of each pair which you more strongly believe to be the case, and circle the letter beside this statement. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

In some instances you may find that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

- [1] A Children get into trouble because their parents punish them too much.
B The trouble with most children nowadays is that their parents are too easy with them.
- [2] A Many of the unhappy things in people's lives are partly due to bad luck.
B People's misfortunes result from the mistakes they make.
- [3] A One of the major reasons why we have wars is because people don't take enough interest in politics.
B There will always be wars, no matter how hard people try to prevent them.
- [4] A In the long run people get the respect they deserve in this world.
B Unfortunately an individual's worth often passes unrecognised no matter how hard they try.
- [5] A The idea that teachers are unfair to students is nonsense.
B Most students don't realise the extent to which their grades are influenced by accidental happenings.
- [6] A Without the right breaks one cannot be an effective leader.
B Capable people who fail to become leaders have not taken advantage of their opportunities.
- [7] A No matter how hard you try some people just don't like you.
B People who can't get others to like them don't understand how to get along with others.
- [8] A Heredity plays the major role in determining one's personality.
B It is one's experiences in life which determine what they're like.
- [9] A I have often found that what is going to happen will happen.
B Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
- [10] A In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
B Many times exam questions tend to be so unrelated to course work that studying is really useless.

- [11] A Becoming a success is a matter of hard work; luck has little or nothing to do with it.
B Getting a good job depends mainly on being in the right place at the right time.
- [12] A The average citizen can have an influence in government decisions.
B This world is run by the few people in power and there is not much the little guy can do about it.
- [13] A When I make plans I am almost certain that I can make them work.
B It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
- [14] A There are certain people who are just no good.
B There is some good in everybody.
- [15] A In my case getting what I want has little or nothing to do with luck.
B Many times we might just as well decide what to do by flipping a coin.
- [16] A Who gets to be the boss often depends on who was lucky enough to be in the right place first.
B Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.
- [17] A As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
B By taking an active part in political and social affairs the people can control world events.
- [18] A Most people don't realise the extent to which their lives are controlled by accidental happenings.
B There really is no such thing as "luck".
- [19] A One should always be willing to admit mistakes.
B It is usually best to cover up one's mistakes.
- [20] A It is hard to know whether or not a person really likes you.
B How many friends you have depends upon how nice a person you are.
- [21] A In the long run the bad things that happen to us are balanced by the good ones.
B Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
- [22] A With enough effort we can wipe out political corruption.
B It is difficult for people to have much control over the things politicians do in office.
- [23] A Sometimes I can't understand how teachers arrive at the grades they give.
B There is a direct connection between how hard I study and the grades I get.
- [24] A A good leader expects people to decide for themselves what they should do.
B A good leader makes it clear to everybody what their jobs are.

- [25] A Many times I feel that I have little influence over the things that happen to me.
B It is impossible for me to believe that chance or luck plays an important role in my life.
- [26] A People are lonely because they don't try to be friendly.
B There's not much use in trying too hard to please people: if they like you, they like you.
- [27] A There is too much emphasis on athletics in high school.
B Team sports are an excellent way to build character.
- [28] A What happens to me is my own doing.
B Sometimes I feel that I don't have enough control over the direction my life is taking.
- [29] A Most of the time I can't understand why politicians behave the way they do.
B In the long run the people are responsible for bad government on a national as well as on a local level.

.....

Questionnaire 3

This questionnaire consists of groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling OVER THE PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

- [1] 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.
- [2] 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.
- [3] 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.
- [4] 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.
- [5] 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.
- [6] 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.
- [7] 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

- [8] 0 I don't feel I am any worse than anybody else.
 1 I am critical of myself for my weaknesses or mistakes.
 2 I blame myself all the time for my faults.
 3 I blame myself for everything bad that happens.
- [9] 0 I don't have any thoughts of killing myself.
 1 I have thoughts of killing myself, but I would not carry them out.
 2 I would like to kill myself.
 3 I would kill myself if I had the chance.
- [10] 0 I don't cry anymore than usual.
 1 I cry more now than I used to.
 2 I cry all the time now.
 3 I used to be able to cry, but now I can't cry even though I want to.
- [11] 0 I am no more irritated now than I ever am.
 1 I get annoyed or irritated more easily than I used to.
 2 I feel irritated all the time now.
 3 I don't get irritated at all by the things that used to irritate me.
- [12] 0 I have not lost interest in other people.
 1 I am less interested in other people than I used to be.
 2 I have lost most of my interest in other people.
 3 I have lost all of my interest in other people.
- [13] 0 I make decisions about as well as I ever could.
 1 I put off making decisions more than I used to.
 2 I have greater difficulty in making decisions than before.
 3 I can't make decisions at all anymore.
- [14] 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or unattractive.
 2 I feel that there are permanent changes in my appearance that make me look unattractive.
 3 I believe that I look ugly.
- [15] 0 I can work about as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.
- [16] 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.

- [17] 0 I don't get more tired than usual.
 1 I get tired more easily than I used to.
 2 I get tired from doing almost anything.
 3 I am too tired to do anything.
- [18] 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all now.
- [19] 0 I haven't lost much weight, if any, lately.
 1 I have lost more than 2 kilograms. I am purposely trying to lose weight
 2 I have lost more than 4 kilograms. by eating less. Yes ___ No ___
 3 I have lost more than 6 kilograms.
- [20] 0 I am no more worried about my health than usual.
 1 I am worried about physical problems such as aches and pains; or upset stomach; or
 constipation.
 2 I am very worried about physical problems and it's hard to think of much else.
 3 I am so worried about my physical problems that I cannot think about anything else.
- [21] 0 I have not noticed any recent change in my interest in sex.
 1 I am less interested in sex than I used to be.
 2 I am much less interested in sex now.
 3 I have lost interest in sex completely.

.....

THANK YOU FOR YOUR TIME

.....

REFERENCES

- Allen, R. E. (Ed.). (1990). *The concise Oxford dictionary*. (8th Ed.). Oxford, England: Clarendon Press.
- Allgood-Merten, B., Lewinsohn, P. M., & Hops, H. (1990). Sex differences and adolescent depression. *Journal of Abnormal Psychology, 99*, 55-63.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders*. (4th Ed.). Washington, D.C: Author.
- Andrews, G., Stewart, G., Morris-Yates, A., Holt, P., & Henderson, S. (1990). Evidence for a general neurotic syndrome. *British Journal of Psychiatry, 157*, 6-12.
- Angold, A., & Worthman, C. W. (1993). Puberty onset of gender differences in rates of depression: a developmental, epidemiologic and neuroendocrine perspective. *Journal of Affective Disorders, 29*, 145-158.
- Barber, J. P., & De Rubeis, R. J. (1989). On second thought: Where the action is in cognitive therapy for depression. *Cognitive Therapy and Research, 13*, 441-457.
- Beall, A. E., & Sternberg, R. J. (Eds.). (1993). *The psychology of gender*. New York: Guildford Press.
- Bebbington, P. (1996). The origins of sex differences in depressive disorder: bridging the gap. *International Review of Psychiatry, 8*, 295-332.
- Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York: Harper & Row.

- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.
- Beck, C. T. (1992). The lived experience of postpartum depression: A phenomenological study. *Nursing Research, 41*, 166-170.
- Beck, D. A., & Koenig, H. G. (1996). Minor depression: A review of the literature. *International Journal of Psychiatry In Medicine, 26*, 177-209.
- Benassi, V. A., Sweeney, P. D., & DuFour, C. L. (1988). Is there a relation between locus of control orientation and depression? *Journal of Abnormal Psychology, 97*, 357-367.
- Birmaher, B., Ryan, N. D., Williamson, D. E., Brent, D. A., & Kaufman, J. (1996). Childhood and adolescent depression: A review of the past 10 years. Part II. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 1575-1583.
- Blackburn, I. M., Bishop, S., Glen, I. M., Whalley, L. J., & Christie, J. E. (1981). The efficacy of cognitive therapy in depression: a treatment trial using cognitive therapy and pharmacotherapy, each alone and in combination. *British Journal of Psychiatry, 139*, 181-189.
- Brandon, J. E., & Loftin, J. M. (1991). Relationship of fitness to depression, state and trait anxiety, internal health locus of control, and self-control. *Perceptual and Motor Skills, 73*, 563-568.
- Breslau, N., Schultz, L., & Peterson, E. (1995). Sex differences in depression: a role for preexisting anxiety. *Psychiatry Research, 58*, 1-12.
- Brooks-Gunn, J., & Warren, M. P. (1989). Biological and social contributions to negative affect in young adolescent girls. *Child Development, 60*, 40-55.

- Brown, G. W., & Harris, T. (1989). *Social origins of depression: A study of psychiatric disorder in women*. London: Routledge Publishers.
- Brown, G. W., Harris, T. O., & Hepworth, C. (1994). Life events and endogenous depression: A puzzle reexamined. *Archives of General Psychiatry, 51*, 525-534.
- Brown, G. W., & Prudo, R. (1981). Psychiatric disorder in a rural and urban population: 1. Aetiology of depression. *Psychological Medicine, 11*, 581-599.
- Brown, I. S. (1992). A review of Susan Nolen-Hoeksema's book, "Sex Differences In Depression". In *Psychology of Women Quarterly, 16*, 133-135.
- Browne, A., & D. Finklehor. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin, 99*, 66-77.
- Burns, D., & Nolen-Hoeksema, S. (1991). Coping styles, homework assignments, and the effectiveness of cognitive-behavioral therapy. *Journal of Consulting and Clinical Psychology, 59*, 305-311.
- Burns, D., & Nolen-Hoeksema, S. (1992). Therapeutic empathy and recovery from depression in cognitive-behavioral therapy: A structured equation model. *Journal of Consulting and Clinical Psychology, 60*, 441-449.
- Bushnell, J. A., Wells, J. E., & Oakley-Browne, M. A. (1992). Long-term effects of intrafamilial sexual abuse in childhood. *Acta Psychiatrica Scandanavia, 85*, 136-142.
- Byrne, A., & Byrne, D. G. (1993). The effect of exercise on depression, anxiety and other mood states: A review. *Journal of Psychosomatic Research, 37*, 565-574.

- Campbell, I. C., Marsden, K., & Powell, J. F. (1994). Shifting depression: Editorial. *Psychological Medicine, 24*, 271-273.
- Carpenter, B. N. (Ed.). (1992). *Personal coping: Theory, research, and application*. Connecticut, USA: Praeger Publications.
- Champion, L. A., & Power, M. J. (1995). Social and cognitive approaches to depression: Towards a new synthesis. *British Journal of Clinical Psychology, 34*, 485-503.
- Clarke, D. E., & Jensen, M. A. (1997). The effects of social support, life events, and demographic factors on depression among Maori and Europeans in New Zealand rural, town, and urban environments. *Journal of Community Psychology, 25*, 303-323.
- Corruble, E., Ginestet, D., & Guelfi, J. D. (1996). Comorbidity of personality disorders and unipolar major depression: A review. *Journal of Affective Disorders, 37*, 157-170.
- Coverdale, J. H., McCullough, L. B., Chervenak, F. A., & Bayer, T. (1996). Clinical implications and management strategies when depression occurs during pregnancy: Occasional review. *Australian and New Zealand Journal of Obstetrics and Gynaecology, 36*, 424-429.
- Cross National Collaborative Group. (1992). The changing rate of major depression: Cross-national comparisons. *Journal of the American Medical Association, 268*, 3098-3105.
- Culbertson, F. M. (1997). Depression and gender: An international review. *American Psychologist, 52*, 25-31.
- Cutler, S. E., & Nolen-Hoeksema, S. (1991). Accounting for the sex differences in depression through female victimization: Childhood sexual abuse. *Sex Roles, 24*, 425-438.

- Delonghis, A., Hemphill, K. J., & Lehman, D. R. (1992). Chapter 5. A structured diary methodology for the study of daily events. In Bryant, Edwards, Tindale, Posavar, Heath, Henderson & Suarez-Balcazar. (Eds.). *Methodological issues in applied psychology: Social psychological applications to social issues*. (Vol. 2, pp. 83-105). New York: Plenum Press.
- Denmark, F. L., & Paludi, M. A. (Eds.). (1993). *Psychology of women: A handbook of issues and theories*. Connecticut, USA: Greenwood Press.
- Eagly, A. H. (1995). The science and politics of comparing women and men. *American Psychologist*, 50, 145-158.
- Eaton, W. O., & Enns, L. R. (1986). Sex differences in human motor activity level. *Psychological Bulletin*, 100, 19-28.
- Elkins, R. (1995). *Depression and natural medicine: A nutritional approach to depression and mood swings*. California: Woodland Books.
- Endicott, J. (1993). The menstrual cycle and mood disorders. *Journal of Affective Disorders*, 29, 193-200.
- Eysenck, H. J., & Eysenck, S. B. G. (1964). *Manual of the Eysenck personality inventory*. London: University of London Press.
- Eysenck, M. W. (1994). *Individual differences: Normal and abnormal*. London: Lawrence Erlbaum and Associates.
- Feehan, M., McGee, R., Raja, S. N., & Williams, S. M., (1994). DSM-III-R disorders in New Zealand 18-year-olds. *Australian and New Zealand Journal of Psychiatry*, 28, 87-99.
- Fennell, M. J., & Teasdale, J. D. (1984). Effects of distraction on thinking and affect in depressed patients. *British Journal of Clinical Psychology*, 23, 65-66.

- Fennell, M. J., Teasdale, J. D., Jones, S., & Damlè, A. (1987). Distraction in neurotic and endogenous depression: An investigation of negative thinking in major depressive disorder. *Psychological Medicine*, 17, 441-452.
- Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, 46, 839-852.
- Frank, E., Tu, X. M., Anderson, B., Reynolds III, C. F., Karp, J. F., Mayo, A., Ritenour, A., & Kupfer, D. J. (1996). Effects of positive and negative life events on time to depression onset: An analysis of additivity and timing. *Psychological Medicine*, 26, 613-626.
- Gale, A., & M. W. Eysenck. (Eds.). (1992). *Handbook of individual differences: Biological perspectives*. England: John Wiley & Sons Ltd.
- Gilbert, P. (1992). *Depression: The evolution of powerlessness*. New York: The Guilford Press.
- Gilligan, C. (1982). *In a different voice*. Massachusetts: Harvard University Press.
- Halbreich, U., & Lumley, L. A. (1993). The multiple interactional biological processes that might lead to depression and gender differences in its appearance. *Journal of Affective Disorders*, 29, 159-173.
- Hammen, C. (1992). Life events and depression: The plot thickens. *American Journal of Community Psychology*, 20, 179-193.
- Hammen, C., Krantz, S. E., & Cochran, S. D. (1981). Relationships between depression and causal attributions about stressful events. *Cognitive Therapy and Research*, 5, 351-358.

- Hanninen, V., & Aro, H. (1996). Sex differences in coping and depression among young adults. *Social Science Medicine*, 43, 1453-1460.
- Hayes, A. M., Castonguay, L. G., & Goldfried, R. (1996). Effectiveness of targeting the vulnerability factors of depression in cognitive therapy. *Journal of Consulting and Clinical Psychology*, 64, 623-627.
- Hirschfeld, R. M. A. (1994). Major depression, dysthymia and depressive personality disorder. *Journal of Affective Disorders*, 165, 23-30.
- Hochschild, A. (with A. Machung). (1989). *The second shift*. London: Judy Piatkus Publishers Ltd.
- Howell, D. C. (1992). Multiple regression. Chapter 15. In *Statistical methods for psychology*. (3rd Ed.). Belmont, CA: Duxbury Press.
- Hyde, J. S., & Frost, L. A. (1993). Meta-analysis in the psychology of women. In F. L. Denmark., & M. A. Paludi. (Eds.), (1993). *Psychology of women: A handbook of issues and theories* (pp. 67-103). Connecticut: Greenwood Press.
- Hyde, J. S., & Plant, E. A. (1995). Magnitude of psychological gender differences: Another side to the story. *American Psychologist*, 50, 159-161.
- Illardi, S., & Craighead, W. E. (1994). The role of non-specific factors in cognitive-behavior therapy for depression. *Clinical Psychology Science and Practice*, 1, 138-156.
- Jack, D. (1991). *Silencing the self: Women and depression*. Massachusetts: Harvard University Press.
- Jacklin, C. N. (Ed.). (1992). *The psychology of gender: The international library of critical writings in psychology*. (Vol. 1.). New York: New York University Press.

- Jacobs, B. L. (1994). Serotonin, motor activity and depression-related disorders. *American Scientist*, 82, 456-463.
- Jacobs, B. L., & Azmitia, E. C. (1992). Structure and function of the brain serotonin system. *Physiological Reviews*, 72, 165-229.
- Johnson, J. G. (1992). Gender and mood as mediators of the relationship between attributional style, daily life events, depression symptoms, and hopelessness. *Cognitive Therapy and Research*, 16, 687-697.
- Joiner, T. E., & Wagner, K. D. (1995). Attributional style and depression in children and adolescents: A meta-analytic review. *Clinical Psychology Review*, 15, 777-798.
- Joyce, P. R., Oakley-Browne, M. A., Wells, J. E., Bushnell, J. A., & Hornblow, A. R. (1990). Birth cohort trends in major depression: Increasing rates and earlier onset in New Zealand. *Journal of Affective Disorders*, 18, 83-89.
- Keller, M. B., (1994). Depression: A long-term illness. *British Journal of Psychiatry*, 165, 9-15.
- Kendall, P. C., & Flannery-Schroeder, E. C. (1995). Rigor, but not rigor mortis, in depression research. *Journal of Personality and Social Psychology*, 68, 892-894.
- Kessler, R. C. (1997). The effects of stressful life events on depression. *Annual Review of Psychology*, 48, 191-214.
- Kimura, D. K., & Hampson, E. (1993). Neural and hormonal mechanisms mediating sex differences in cognition. In P. A. Vernon. (Ed.). *Biological approaches to the study of human intelligence*. (pp. 373-397). New Jersey: Ablex Publishing Corporation.
- Kirk, R. G. (1995). *Experimental design: Procedures for the behavioral sciences*. (3rd Ed.). Pacific Grove, CAL: Brooks/Cole.

- Klein, M. H., Kupfer, D. J., & Shea, M. T. (Eds.). (1993). *Personality and depression*. New York: The Guildford Press.
- Kleinke, C. L., Staneski, R. A., & Mason, J. K. (1982). Sex differences in coping with depression. *Sex Roles, 8*, 877-889.
- Kovacs, M., Rush, A. J., Beck, A. T., & Hollon, S. D., (1981). Depressed outpatients treated with cognitive therapy or pharmacotherapy: A one-year follow-up. *Archives of General Psychiatry, 38*, 33-39.
- Lefcourt, H. M. (1991). Chapter 9. Locus of control. In J. P. Robinson., P. R. Shaver., & L. S. Wrightsman (Eds.), *Measures of personality and social psychological Attributes*. (pp. 413-425). San Diego: Academic Press, Inc.
- Lester. D. (1995). *Theories of personality: A systems approach*. Washington D.C: Taylor & Francis Publishers.
- Lopez-Ibor, J. J. Jr. (1988). The involvement of serotonin in psychiatric disorders and behaviour. *British Journal of Psychiatry, 153*, 26-39.
- Lott, B. (1994). *Women's lives: Themes and variations in gender learning*. California: Brooks/Cole.
- Lyubomirsky, S., & Nolen-Hoeksema, S. (1993). Self-perpetuating properties of dysphoric rumination. *Journal of Personality and Social Psychology, 65*, 339-349.
- Lyubomirsky, S., & Nolen-Hoeksema, S. (1995). Effects of self-focused rumination on negative thinking and interpersonal problem solving. *Journal of Personality and Social Psychology, 69*, 176-190.

- McGrath, E., Keita, G. P., Strickland, B. R., & Russo, N. F. (Eds.). (1990). *Women and depression: Research, risk factors and treatment*. Final report of the 'American Psychological Association Task Force on Women and Depression'. Washington, D.C: American Psychological Association.
- McLean, P. D., & Hakstian, A. R. (1979). Clinical depression: Comparative efficacy of outpatient treatments. *Journal of Consulting and Clinical Psychology, 47*, 818-836.
- Maccoby, E. E., & Jacklin, C. N. (1974). *The psychology of sex differences*. Stanford, CA: Stanford University Press.
- Mendels, J. (1994). Depression: Challenge for the '90s. (Introduction section). *The British Journal of Psychiatry, 165*, 1-50.
- Miletich, J. J. (1995). *Depression: A multimedia sourcebook*. Connecticut: Greenwood Press.
- Mondimore, F. M. (1993). *Depression: The mood disease*. (Revised Edition). Baltimore, Maryland: The John Hopkins University Press.
- Monte, C. F. (1995). *Beneath the mask*. An introduction to theories of personality. (5th Ed.). Fort Worth, Texas: Harcourt Brace.
- Morrow, J., & Nolen-Hoeksema, S. (1990). Effects of responses to depression on the remediation of depressive affect. *Journal of Personality and Social Psychology, 58*, 519-527.
- Mullen, P. E., Martin, J. L., Anderson, J. C., Romans, S. E., & Herbison, G. P. (1993). Childhood sexual abuse and mental health in adult life. *British Journal of Psychiatry, 163*, 721-732.
- Needles, D. J., & Abraham, L. Y. (1990). Positive life events, attributional style, and hopefulness: Testing a model of recovery from depression. *Journal of Abnormal Psychology, 2*, 156-165.

- Nicol-Smith, L. (1996). Causality, menopause, and depression: a critical review of the literature. *British Medical Journal*, 313, 1229-1232.
- Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: Evidence and theory. *Psychological Bulletin*, 101, 259-282.
- Nolen-Hoeksema, S. (1990). *Sex differences in depression*. California: Stanford University Press.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100, 569-582.
- Nolen-Hoeksema, S., & Girgus, J. S. (1994). The emergence of gender differences in depression during adolescence. *Psychological Bulletin*, 115, 424-443.
- Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. P. (1991). Sex differences in depression and explanatory style in children. *Journal of Youth and Adolescence*, 20, 233-245.
- Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: The 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, 61, 115-121.
- Nolen-Hoeksema, S., Morrow, J., & Fredrickson, B. L. (1993). Response styles and the duration of episodes of depressed mood. *Journal of Abnormal Psychology*, 102, 20-28.
- Nolen-Hoeksema, S., Parker, L. E., & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of Personality and Social Psychology*, 67, 92-104.

- Oakley-Browne, M. A., Joyce, P. R., Wells, J. E., Bushnell, J. A., & Hornblow, A. R. (1989). Christchurch psychiatric epidemiology study, Part II: Six month and other period prevalences of specific psychiatric disorders. *Australian and New Zealand Journal of Psychiatry*, 23, 327-340.
- Oakley-Browne, M. A. (1995). Anxiety disorders: An epidemiological perspective. *New Zealand Journal of Psychology*, 24, 19-28.
- Owens, J. L. (1992). Achieving effectiveness in intervention: A review of literature commissioned by *The New Zealand Family Planning Association*. Auckland. New Zealand.
- Page, S., & Bennesch, S. (1993). Gender and reporting differences in measures of depression. *Canadian Journal of Behavioural Science*, 25, 579-589.
- Pervin, L. A. (Ed.). (1990). *Handbook of personality: Theory and research*. New York: The Guildford Press.
- Plomin, R., Owen, M. J., & McGuffin, P. (1994). The genetic basis of complex human behaviors. *Science*, 264, 1733-1739.
- Pyszczyński, T., & Greenberg, J. (1992). *Hanging on and letting go : Understanding the onset, progression, and remission of depression*. New York: Springer-Verlag.
- Quadrio, C. (1994). Do we need a psychology of gender difference? *Australian and New Zealand Journal of Family Therapy*, 15, 177-183.
- Rippere, V. (1977). What's the thing to do when you're feeling depressed: A pilot study. *Behaviour Research and Therapy*, 15, 185-191.
- Robbins, P. R. (1993). *Understanding depression*. North Carolina: McFarland and Company Publishers.

- Robins, C. J., & Hayes, A. M. (1993). An appraisal of cognitive therapy. *Journal of Consulting and Clinical Psychology, 61*, 205-214.
- Robins, L. N., Helzer, J. E., Ratcliff, K. S., & Seyfried, W. (1982). Validity of the diagnostic interview schedule, version II: *DSM-III* diagnoses. *Psychological Medicine, 12*, 855-870.
- Rogosa, D., Floden, R., & Willett, J. B. (1984). Assessing the stability of teacher behavior. *Journal of Educational Psychology, 76*, 1000-1027.
- Romans-Clarkson, S. E., Walton, V. A., Herbison, G. P., & Mullen, P. E. (1990). Psychiatric morbidity among women in urban and rural New Zealand: psycho-social correlates. *British Journal of Psychiatry, 156*, 84-91.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, (1, Whole No. 609).
- Ruble, D. N., Greulich, F., Pomerantz, E. M., & Gochberg, B. (1993). The role of gender-related processes in the development of sex differences in self-evaluation and depression. *Journal of Affective Disorders, 29*, 97-128.
- Saudino, K. J., Pedersen, N. L., Lichtenstein, P., McClearn, G. E., & Plomin, R. (1997). Can personality explain genetic influences on life events? *Journal of Personality and Social Psychology, 72*, 196-206.
- Scott, M. J., & Stradling, S. G. (1991). The cognitive-behavioural approach with depressed clients. *British Journal of Social Work, 21*, 533-544.
- Shaw, B. F. (1989). Cognitive-behavior therapies for major depression: Current status with an emphasis on prophylaxis. Canadian Consensus Symposium on Depression (1988, Ottawa, Canada). *Psychiatric Journal of the University of Ottawa, 14*, 403-408.

- Simpson, H. G., & Nee, J. C., & Endicott, J. (1997). First-episode major depression: Few sex differences in course. *Archives of General Psychiatry*, *54*, 633-639.
- Smith, A. (1992). *Understanding children's development: A New Zealand perspective*. (Third Edition). Wellington: Bridget Williams.
- Spangler, D. L., Simons, A. D., Monroe, S. M., & Thase, M. E. (1996). Gender differences in cognitive diathesis-stress domain match: Implications for differential pathways to depression. *Journal of Abnormal Psychology*, *105*, 653-657.
- Stuart, S., & Thase, M. E. (1994). Inpatient applications of cognitive-behavioral therapy: A review of recent developments. *Journal of Psychotherapy Practice and Research*, *3*, 284-299.
- Susman, E. J., Inoff-German, G., Nottelmann, E. D., Loriaux, D. L., Cutler Jr, G. B., & Chrousos, G. P. (1987). Hormones, emotional disposition, and aggressive attributions in young adolescents. *Child Development*, *58*, 1114-1134.
- Sweeney, P. D., Anderson, K., & Bailey, S. (1986). Attributional style in depression: A meta-analytic review. *Journal of Personality and Social Psychology*, *50*, 974-991.
- Tabachnick, B. G., & Fidell, L. S. (1989). Chapter 4. Cleaning up your act: Screening your data prior to analysis, In *Using multivariate statistics*. (2nd Ed.). New York: Harper Row.
- Teasdale, J. D. (1988). Cognitive vulnerability to persistent depression. *Cognition and Emotion*, *2*, 247-274.
- Teasdale, J. D., & Fennell, M. J. (1982). Immediate effects on depression of cognitive therapy interventions. *Cognitive Therapy and Research*, *6*, 343-352.

- Tennen, H., Hall, J. A., & Affleck, G. (1995). Depression research methodologies in the *Journal of Personality and Social Psychology*: A review and critique. *Journal of Personality and Social Psychology*, 68, 870-884.
- Thase, M. E., Bowler, K., & Harden, T. (1991). Cognitive behavior therapy of endogenous depression: II. Preliminary findings in 16 unmedicated inpatients. *Behavior Therapy*, 22, 469-477.
- Thase, M. E., & Simons, A. D. (1992). Cognitive behavior therapy and relapse of nonbipolar depression: Parallels with pharmacotherapy. *Psychopharmacology Bulletin*, 28, 117-122.
- Vernon, P. A. (Ed.). (1994). *The neuropsychology of individual differences*. San Diego: Academic Press.
- Weary, G., Edwards, J. A., & Jacobson, J. A. (1995). Depression research methodologies in the *Journal of Personality and Social Psychology*: A reply. *Journal of Personality and Social Psychology*, 68, 885-891.
- Weissman, M. M., Bland, R., Joyce, P. R., Newman, S., Wells, J. E., & Wittchen, H-U. (1993). Sex differences in rates of depression: Cross-national perspectives. *Journal of Affective Disorders*, 29, 77-84.
- Weissman, M. M., & Klerman, G. L. (1977). Sex differences and the epidemiology of depression. *Archives of General Psychiatry*, 34, 98-111.
- Wells, J. E., Bushnell, J. A., Hornblow, A. R., Joyce, P. R., & Oakley-Browne, M. A. (1989). Christchurch psychiatric epidemiology study, part 1: Methodology and life prevalence for specific psychiatric disorders. *Australian and New Zealand Journal of Psychiatry*, 23, 315-326.

- Whitley, B. E., Michael, S. T., & Tremont, G. (1991). Testing for sex differences in the relationship between attributional style and depression. *Sex Roles, 24*, 753-758.
- Wilhelm, K., & Parker, G. (1994). Sex differences in lifetime depression rates: fact or artefact? *Psychological Medicine, 24*, 97-111.
- Wilhelm, K., Parker, G., & Hadzi-Pavlovic, D. (1997). Fifteen years on: Evolving ideas in researching sex differences in depression. *Psychological Medicine, 27*, 875-883.
- Williams, J. M. G. (1992). *The psychological treatment of depression: A cognitive guide to the theory and practice of cognitive behaviour therapy*. (2nd Ed.). London: Routledge Publishers.
- Wittchen, H-U., Knauper, B., & Kessler, R. C. (1994). Lifetime risk of depression. *British Journal of Psychiatry, 165*, 16-22.
- Wood, J. V., Saltzberg, J. A., Neale, J. M., Stone, A. A., & Rachmiel, T. B. (1990). Self-focused attention, coping responses, and distressed mood in every day life. *Journal of Personality and Social Psychology, 58*, 1027-1036.
- Wu, X., & DeMaris, A. (1996). Gender and marital status differences in depression: The effects of chronic strains. *Sex Roles, 34*, 299-319.
- Young, M. A., Fogg, L. F., Scheftner, W. A., Keller, M. B., & Fawcett, J. A. (1990). Sex differences in lifetime prevalence of depression: Does varying the diagnostic criteria reduce the female/male ratio? *Journal of Affective Disorders, 18*, 187-192.
- Zeiss, A. M., Lewinsohn, P. M., & Munoz, R. F. (1979). Nonspecific improvement effects in depression using interpersonal skills training, pleasant activity schedules, or cognitive training. *Journal of Consulting and Clinical Psychology, 47*, 427-439.

Zuckerman, M. (1995). Good and bad humors: Biochemical bases of personality and its disorders. *Psychological Science*, 6, 325-332.