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Thesis

Why Don't Men Seek Help for Depression?
The Impact of Masculinity on Symptom Perception

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Abstract

Evidence suggests that men are less likely than women to seek help for depression even though, given depression, they are more at risk of suicide. Evidence further suggests that this lack of help seeking for depression is associated with higher masculinity. This study hypothesised that men's lack of help seeking for depression was due to differences in symptom perception. Specifically, the study tested the hypothesis that the factors of a model of symptom perception would mediate an association between higher masculinity and fewer depressive symptoms.

In a cross-sectional internet survey design, 325 men, recruited via employers, completed measures of depression, masculinity, and symptom perception.

There was no relationship between masculinity and depression and, counter to prediction, masculinity was associated with heightened symptom perception. The factors of the model of symptom perception accounted for 38% of the variance in depressive symptoms.

After consideration of the strengths and weakness of the study, it is concluded that the model of symptom perception is a useful model and that men's lack of help seeking for depression is unlikely to be due to differences in symptom perception, rather some process following the perception of symptoms. Clinical implications relating to men's contacts with services are discussed.

Why Don't Men Seek Help for Depression?

The Impact of Masculinity on Symptom Perception

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1. Introduction

Depression is a disorder characterised by low mood and a loss of interest or enjoyment, which is around twice as likely to be diagnosed in women as in men. It is a significant risk factor for suicide, more so in men than women. Many people do not seek help for depression and men are less likely than women to seek help. Men's lack of help seeking for depression coupled with an increased risk of suicide presents a public health problem and is an important area of research.

This introduction will provide an overview of the disorder and evidence in support of the assertion that men do not seek help for depression. It will then outline evidence relevant to this lack of help seeking, which can be categorised into three groups: sex differences in depression and help seeking, the impact of masculinity, and the perception of depressive symptoms. It will be argued that research is characterised by a focus on exploratory methods and a lack of theoretical basis, resulting in weak conclusions for each study and difficulties in integrating results across studies, leading to an evidence base consisting of disparate suggestions. It will then be argued that the best place to start, in terms of a theoretical model of help seeking, is with the first stage of help seeking: the perception of symptoms. A model of symptom perception will then be detailed with supporting evidence. Finally, the purpose of the current study, its research question, and hypotheses will be outlined.

1.1. What is Depression?

This section will briefly describe the symptoms of depression, its course and prognosis, its prevalence, the associated mortality and disability with a particular focus on male suicide, and finally the economic cost of depression.

1.1.1. Symptoms

Depression is a disorder characterised by low mood, a loss of interest and enjoyment, and reduced energy leading to increased tiredness and inactivity (American Psychiatric Association (APA), 1994; World Health Organisation (WHO), 1992). Other common symptoms of depression include disturbed appetite and sleep, diminished concentration, negative views of the self and the future, feelings of worthlessness or guilt, and thoughts of deserving punishment, death, self-harm, or suicide (APA, 1994; WHO, 1992). These symptoms are generally persistent in nature and tend not to be influenced by circumstance; anxiety and agitation are also frequent experiences (APA, 1994; WHO, 1992). Despite these generalisations about depression, it is recognised that there is marked variation across all symptoms; one individual's depression is very different from another's (National Institute for Health and Clinical Excellence (NICE), 2009).

1.1.2. Course and prognosis.

The average age of the first episode of major depression is in the mid-20s, although the first episode can occur at any time from childhood to older age (NICE, 2009). The initial experience of the disorder can vary considerably; some people experience a range of symptoms such as anxiety, phobias, panic attacks and mild depression over a period of months, others may experience a fairly sudden change in mood often relating to a life event such as a loss (NICE, 2009). Whilst many people recover from a depressive episode, a significant minority do not; in a sample from across the US, 70% of individuals with an index episode of major depression had recovered within the first year (Keller, Shapiro, Lavori, & Wolfe, 1982), 80% had recovered by two years, but 12% were still not recovered at five years (Keller et al., 1992). Depression is also likely to recur; in one study 75% of the sample had more than one episode over a 10 year period (Angst, Degonda, & Ernst, 1992) and in another,

60% of participants experienced recurrence one year after maintenance treatment for depression (Weissman, Kasl, & Klerman, 1976).

1.1.3. Prevalence of depression.

Estimates of the prevalence of depression vary. Eighteen studies were included in a systematic review investigating the prevalence of mood disorders worldwide (Waraich, Goldner, Somers, & Hsu, 2004). A meta-analysis of these results suggested the best estimate for one-year prevalence of major depressive disorder was 4.1 per 100, 95% CI [2.4, 6.2] and for lifetime prevalence of major depressive disorder was 6.7 per 100, 95% CI [4.2, 10.1]. The considerable variation across studies appeared to be associated with study population, methodological differences, and response rate. Where data were reported by sex, the prevalence rates of major depressive disorder were approximately 1.5 - 2.5 times higher for women than men. Lifetime prevalence rates for major depressive disorder were fairly stable throughout adult life (18 to 65 years).

A survey conducted in the UK in 2000 (Singleton, Bumpstead, O'Brien, Lee, & Meltzer, 2001) found 16.4 cases per 100 of neurotic disorder, representing around one in six of all adults. The most prevalent neurotic disorder was mixed anxiety and depression (8.8 cases per 100) followed by generalised anxiety disorder (4.4 cases per 100) and depressive episode (2.6 cases per 100). Prevalence rates for all disorders were higher for women than men, except for panic disorder, which was the same. Prevalence rates varied by age; for depressive episode the lowest prevalence rates were found in young men aged 16-24 years (.85 cases per 100 compared to 3.1 cases for their female counterparts) and men and women aged over 65 years (.91 cases per 100).

1.1.4. Mortality and disability.

Suicide is estimated to account for around 0.9% of all deaths worldwide, which equates to 1000 deaths by suicide every day (Sartorius, 2001). Depression is an important risk

factor for suicide: one study found that the lifetime risk of suicide for those hospitalised for an affective disorder was 4.0%, and for those hospitalised for suicidal risk was 8.0%; this compared to 0.5% for the general population (Bostwick & Pankratz, 2000). Around 21% of people with recurrent depressive disorders attempt suicide (Sartorius, 2001).

Unipolar depression is the third leading cause of disease burden across the world and is predicted to remain so to 2030 (Mathers, Boerna, & Ma Fat, 2008). Depression also has the largest negative impact on mean health scores when compared to other chronic conditions such as angina, arthritis, asthma, or diabetes (Moussavi et al., 2007).

1.1.4.1. Depression and male suicide.

Gender differences in suicide rates in the general population are stark; men are between three and four times more likely to die by suicide than women (Murphy, 1998; ONS, 2008). Studies that have examined suicide in major depression specifically, have found a similar gender difference. In England and Wales, a study of suicides by those in contact with mental health services during the previous 12 months found that 34% of individuals dying by suicide had a depressive disorder (Hunt et al., 2006). In this sample, around twice as many males died by suicide as females in all age categories up to 65 years. A study using mathematical algorithms based on the entire population of the US in 1994 estimated the overall risk of suicide in those with major depression at around 3.4% (Blair-West, Cantor, Mellsop, & Eyeson-Annan, 1999). However, they argued that a single figure was misleading as it collapsed across the genders; the estimated risk for males was almost 7% compared to the estimated 1% risk for females. In those aged under 25 years, the estimated risk ratio for males to females was 10:1.

In summary, despite the fact that men are less likely to be diagnosed with depression, men are more likely to take their own lives. In the general population, men are around three

or four times more at risk of suicide; in the depressed population, this gender difference is even higher, 10:1 in those under 25 years.

1.1.5. Economic impact of depression.

The sections above have outlined the high prevalence of depression, its importance as a risk factor for suicide, and the impact it has in terms of disease burden across the world. The combined impact of these factors amounts to a significant financial burden for individuals, carers, families, healthcare systems, and communities.

One study estimated the total cost of depression in the UK in the year 2000 as over £9 billion (Thomas & Morris, 2003). In arriving at this estimate they included direct healthcare costs as well as indirect costs, such as lost working days, and lost-life years due to premature death. Only £370 million of the £9 billion total costs related to direct treatment costs. Another study conducted a few years later reached a similar estimate of around £9 billion for the cost of depression in the UK in 2007; again the bulk of this cost consisted of indirect costs such as days of lost employment (McCrone, Dhanasiri, Patel, Knapp, & Lawton-Smith, 2008). The latter study also included estimates for costs to 2026, which were predicted to rise to over £15 billion.

1.1.6. Summary.

Depression, a disorder characterised by low mood, has a worldwide lifetime prevalence of around 6.7 per 100 and ranks amongst the top three disorders in the UK and across the world for disease burden and economic cost of disease. Despite its higher prevalence amongst women than men, depressed men are up to 10 times more at risk of suicide than depressed women.

Given the prevalence, burden and risks associated with depression, healthcare professionals across the world have worked to produce interventions to reduce and relieve the symptoms of depression (e.g. NICE, 2009). Despite these efforts, surveys of psychiatric

morbidity across the developed world have repeatedly found that relatively few of those people meeting criteria for depression receive professional help. This apparent lack of help seeking for depression is the focus of the next section.

1.2. Help Seeking for Depression

The majority of the data relating to help seeking rates come from surveys of the general population, which tend to find that men are less likely than women to receive help. Three such studies will be outlined below.

In a sample of 7475 individuals from Ontario, Canada, 14% met criteria for a mood or anxiety disorder, of whom 25% had received help (Rhodes, Goering, To, & Williams, 2002). Of those meeting these criteria, women were twice as likely as men to have received help. A survey of over 10,000 Australian adults included a screen for mental disorder and questions about perceived need for care and service utilisation (Andrews, Issakidis, & Carter, 2001). Around 13% of the sample met criteria for a current mental disorder, of whom only 37% had received at least one consultation from a health professional in relation to this problem in the past 12 months. Of those meeting criteria for an affective disorder (including depressive and bipolar disorders), 67% had received one or more consultations, 24% from mental health providers. Women were significantly more likely to have consulted than men. Other factors related to increased consultation were younger age, and being separated, widowed, or divorced. In a UK sample of over 10,000 adults who were part of a household survey of psychiatric morbidity conducted in 1993, the main factor associated with receiving help was severity of disorder (Bebbington et al., 2003). However, sex was also an important factor: of those with significant psychiatric morbidity, 21.8% of males had received help compared to 34.8% of females. Other factors significantly associated with receiving help were presence of a physical illness, age, marital status, employment status, and ethnic group.

It is clear that there is a disparity between the level of psychopathology in the population and the level of treatment being received. It also appears that given the symptoms of depression, fewer men than women will receive help. In the context of an increased risk of suicide given the symptoms of depression, men's apparent lack of help seeking for depression presents a public health problem and has become an important focus of research. An overview of this research is presented below.

1.3. Why Don't Men Seek Help for Depression?

Studies investigating why men do not seek help for depression will be reviewed in this section. Studies were included in this review following a systematic search involving electronic and manual searches. The search strategy is detailed in the next section; the review itself is then divided into three further sections. The first section reviews studies that have examined sex differences in help seeking behaviour for depression. The second section reviews studies that have used measures of gender (i.e. measures of masculinity and femininity) to investigate associations with help seeking behaviour for depression. The third section reviews studies that have investigated sex and gender differences in the perception of depressive symptoms.

1.3.1. Search Strategy

Initial searches were conducted electronically; these searches were subsequently supplemented with manual searches. NHS Dialog was used to conduct the electronic searches and the search results were exported to the reference manager software Bibus version 1.4.1., which was used to manage all references.

1.3.1.1. Electronic Searches.

The electronic search strategy contained three sections relating to three distinct parts of the research question: men, help seeking, and depression. Each section was designed to

ensure the capture of any relevant terms and incorporated any thesaurus terms used in the search databases. Much of the literature relating to men's help seeking stems from the comparison of men and women's help seeking, therefore, the search terms relevant to the concept 'men' not only included 'men', 'male', and 'masculinity', but also 'sex differences' and 'gender differences'. In the same vein, terms relevant to the concept of 'depression' also included 'counselling' and 'psychotherapy', to retrieve studies focusing on the type of help seeking rather than the problem for which help was being sought. Searches were conducted on 12th November 2008 using Medline, Psychinfo, Cinahl and Embase; the exact search terms used for each database are provided in Appendix A.

1.3.1.2. Manual Searches.

Bibliographies of relevant studies obtained by the electronic search were trawled for further relevant papers. Papers in these bibliographies that appeared, from their title, to have relevance to the research question were noted. These papers were then checked in Bibus against the list of papers already included in the review and the abstracts of new papers were obtained to determine whether the papers were relevant to the review. Those papers with any potential relevance were entered into the Bibus database.

1.3.1.3. Search Strategy Outcome

Following this process, 88 papers were included in the review. These papers were studied and grouped in relation to the way in which they tackled the research question, a process that resulted in the three categories of evidence reviewed in the next sections.

1.3.2. Differences in help seeking behaviour between the sexes.

Of those studies investigating differences between the sexes in help seeking behaviour for depression some have investigated the impact of perceived need using a basic linear process model of help seeking; others have investigated sex differences in attitudes towards seeking help. These two areas will be reviewed in turn.

1.3.2.1. Sex differences in perceived need.

The models used in the following group of studies are variations on a linear process model with three broad stages: 1. individuals are thought to experience symptoms that they evaluate in terms of their likely significances and consequences, 2. they then decide whether they have a problem that requires intervention (perceived need), and 3. they evaluate the costs and benefits of various interventions before making a decision about who to consult.

The first major study to use this model of help seeking utilised data from four large-scale surveys conducted in the US, amounting to a total sample size of over 10,000 participants (Kessler, Brown, & Broman, 1981). Included was a measure of depression and questions about whether individuals thought they had experienced a serious problem, whether they thought they needed help for this problem, and whether they had sought help for this problem. Replicating findings from an earlier study using a university sample (Kessler, Reuter, & Greenley, 1979), only one significant difference was found between the sexes: males were significantly less likely than females to report that they had a serious problem, i.e. that they perceived a need, given a similar level of depression. The finding that there is a sex difference in perceiving a need has since been replicated in other community samples in the US, the UK, Israel, and Puerto-Rico (Albizu-Garcia, Alegria, Freeman, & Vera, 2001; Biddle, Gunnell, Sharp, & Donovan, 2004; Mojtabai, Olfson, & Mechanic, 2002; O'Neil, Lancee, & Freeman, 1985; Rabinowitz, Gross, & Feldman, 1999; Yokopenic, Clark, & Aneshensel, 1983).

These studies, all using a basic linear process model of help seeking, found that males were less likely than females to perceive a need for help given a similar level of depression. Despite this consistency across studies, no study tested how much of the variance in help seeking behaviour for depression could be explained by the variance in the perception of need. In addition, the utility of the linear process model upon which these studies were based

was not questioned or tested. Despite its face validity, a detailed examination quickly reveals some problems. The main issue is the assumed independence and linear nature of the stages; an individual recognises an emotional problem, then they experience a need, and then they consider whether to seek help. Firstly, a perceived need for help is likely to increase the focus on the experiences, increasing symptom reporting (e.g. Leventhal, Diefenbach, & Leventhal, 1992). Thus, the perception or recognition of a problem is not independent of the perception of a need. Secondly, a need can only be defined in terms of a need for something; a need is not perceived in the absence of some idea about what might be available to meet that need. An individual may perceive a need for help from a friend or relative but not perceive a need for help from a psychiatrist for the same problem (e.g. Mackenzie, Gekoski, & Knox, 2006). Thus, the perception of a need is not independent of the decision about whether or not to seek help. These difficulties with the model used by the studies outlined above are relevant to their findings, the most consistent of which is the notion that males perceive a need for help at a higher level of severity than females. This might mean that males have a higher pain threshold, or that they have different ideas about what help is available to meet their need, or that they find the options of help more aversive than females. In this context, a sex difference at a single stage of a linear model, whose linearity is in question, becomes much more difficult to interpret.

In summary, there is evidence to suggest that males are less likely than females to perceive a need for a help given a similar level of symptomology. However, this evidence is difficult to interpret in the light of the difficulties with the linear process model of help seeking used by the studies.

1.3.2.2. Sex differences in help seeking attitudes.

The second group of studies have examined sex differences in attitudes towards seeking psychological help; these are outlined below.

An attitude is defined as an evaluative judgement of something, and has direction (positive or negative evaluation) and valence (the strength of the positivity or negativity) (e.g. Allport & Hartman, 1925). One of the most widely used measures of attitudes towards seeking help is the Attitudes Towards Seeking Professional Psychological Help Scale (ATSPPHS; Fischer & Turner, 1970), which has four subscales: tolerance of stigma; recognition of need for help; interpersonal openness regarding problems; and confidence in the ability of others to help. In this way, the scale does not directly measure attitudes towards seeking help, but indirectly sums together various factors that are thought to impact upon an individual's attitude towards seeking help. The ATSPPHS was found to be associated with past help seeking behaviour and males were found to have poorer attitudes towards seeking psychological help than females (Fischer & Turner, 1970).

Studies that have measured associations between sex and attitudes towards seeking psychological help have tended to use exploratory, correlational models that are not explicitly embedded in models of help seeking, and have provided little a priori hypothesising about what associations might be expected and why. They have replicated the above finding that men have more negative attitudes towards seeking psychological help than women (e.g. Ang, Lim, Tan, & Yau, 2004; Garland & Zigler, 1994; Leong & Zachar, 1999; Mackenzie, Gekoski, & Knox, 2006), and have also found associations between psychological help seeking attitudes and age (Garland & Zigler, 1994; Mackenzie, Gekoski, & Knox, 2006) and symptom level (Garland & Zigler, 1994).

Overall, it appears that there is a replicable association between male sex and negative attitudes towards seeking psychological help. The role of other correlates in this association is less clear, mainly due to a reliance on exploratory research methods.

1.3.2.3. Summary

Two different types of evidence examining sex differences in help seeking have been reviewed with some consistencies across each group of studies. Those studies using a linear process model of help seeking tended to find that men differed from women in terms of their propensity to perceive a need for help given a similar level of depression. Those studies investigating attitudes towards seeking psychological help found that men had more negative attitudes towards seeking psychological help than women. However, there are methodological problems with these groups of studies, mainly attributable to a poor theoretical grounding for the research. Many studies did not use a model of help seeking as a basis for their research; those that did failed to properly describe, critique, and test it. Few studies provided testable hypotheses, most relied on correlational exploratory analyses, severely weakening confidence in the results. Nevertheless, there were fairly consistent findings across studies suggesting that the sex differences found in help seeking behaviour for depression may be the result of differences in perception of need and attitudes towards seeking psychological help.

1.3.3. Studies investigating the impact of masculinity.

The study of sex differences in help seeking is self-limiting; it makes the assumption that sex is the most important factor underlying the sex difference found in help seeking behaviour (Addis, 2008). Another body of research has investigated the properties of men and women (i.e. masculinity and femininity) that might be important in relation to help seeking behaviour. This section will begin with an overview of the concept of masculinity and its measurement, before reviewing evidence using these measures of masculinity in the investigation of help seeking for depression.

1.3.3.1. The concept and measurement of masculinity.

Masculinity and femininity are concepts understood, in some way, by every member of society. Despite this supposed common knowledge, psychologists have found the measurement of these constructs, and the theory behind this measurement, to be complex.

1.3.3.1.1. A bipolar unidimensional continuum.

One of the earliest conceptualisations of gender was role theory. Role theory reasons that, at a societal level, human accomplishment and interaction is a result of a division of labour founded on socially defined, specialised roles (Merton, 1949). Each individual in society is assumed to be placed into one or more social roles (e.g. mother, breadwinner etc.). With these social roles comes a set of expectations about the ways in which individuals with this role ought to behave. Individuals are rewarded for meeting these expectations and punished for failing to meet them; sanctions dealt out by other individuals occupying counter-roles (e.g. parents, teachers etc.). With regards to gender development, it was proposed that individuals were socialised either into a male role, characterised by instrumental specialisation, or into a female role, characterised by expressive specialisation. Early theorists proposed that the division of labour along these lines was necessary for functional human interaction (e.g. Bales & Parsons, 1955).

The view that sex roles were complementary was translated psychometrically into a bipolar, unidimensional continuum of gender, masculinity and femininity being the two extremes (Bem, 1981a). One of the earliest measures based on this premise was the Attitude Interest Analysis Survey (AIAS; Terman & Miles, 1936), which consisted of 456 items from intelligence tests that differentiated significantly between the sexes. The weakness of this methodology was illustrated when a colleague developed a masculinity-femininity dimension to a vocational interest questionnaire along similar lines, including only those items on which the sexes had significantly different scores; correlations between the two resultant measures

were weak (Strong, 1943). Thus, early measures of masculinity, linked intrinsically to sex and sex differences, proved unreliable. The theoretical premise of the measures was also criticised by Constantinople (1973), who, following a review of sex role research, concluded that masculinity and femininity were two independent constructs rather than poles of a continuum. The suggestion that individuals might be both masculine and feminine gave rise to the theory of androgyny, outlined next.

1.3.3.1.2. Two independent desirable dimensions.

In her gender schema theory, Bem (1981b) suggested that infants not only learn about the content of sex differences in their society, but also learn to use the concept of sex differences to organise new information about their society; they adopt the gender schema. Individuals who assimilate their self-concept into this gender schema are regarded by Bem as sex-typed; individuals who have not assimilated their self-concept into gender schema and can utilise aspects of both masculine and feminine roles dependent on the situation are labelled androgynous and are seen as more flexible than their sex-typed counterparts. Whilst an extension of sex role theory, gender schema theory retains the fabric of the original theory; for example that the learning of gender identity is a human predisposition and is supervised by society in the form of sanctions.

In researching her ideas, Bem (1981a) developed a measure of gender role orientation by asking large groups of students to classify various personality traits in terms of their social desirability for men and for women. Those traits that were desirable for men formed the masculinity scale and those that were desirable for women formed the femininity scale. The resultant Bem Sex Role Inventory (BSRI; Bem, 1981) exemplified the idea that masculinity and femininity were independent traits and individuals could possess each to differing degrees. Nevertheless, the inventory retained a categorical stance and labelled individuals as either masculine, feminine, androgynous (high scores on both scales) or undifferentiated (low

scores on both scales). It also retained similar content to that proposed by the sex role theorists: masculine traits were primarily instrumental and feminine traits were primarily expressive. Indeed, the authors of a similar, contemporary scale – the Personal Attributes Questionnaire (PAQ; Spence, 1993) – changed the labels of the PAQ subscales from ‘masculinity’ and ‘femininity’ to ‘instrumentality’ and ‘expressiveness’ respectively.

Tests of the validity of sex role measures have not yielded promising results. Myers and Gonda (1982) aimed to assess the empirical validity of the BSRI and asked over 700 lay people about their conceptions of masculinity and femininity. The definitions provided were not restricted to personality traits, as the BSRI and PAQ had assumed, but were much broader, including aspects of appearance, social roles, sexuality, as well as personality traits other than instrumentality and expressiveness. Another study asked respondents to complete a BSRI, and then, on a modified version of the scale, to rate each item as masculine, feminine, or neutral (Ballard-Reisch & Elton, 1992). The study found no evidence to support the notion that the items of the scales measured masculine, feminine, and neutral traits, suggesting that the measure lacked face and construct validity.

In addition to concerns about the psychometric merit of the instruments premised on sex role theory, the theory itself has been criticised, most notably by Connell (e.g. 1985). Connell notes firstly, that the theory fails to provide an explanation as to what motivates third parties to ‘sanction’ those deviating from societal expectations; if it were their own gender roles this would bring about an infinite regress, if it were their biological sex then sex role theory is not a social theory at all. Secondly, the theory does not account for power imbalances in either the relationships within or between the sexes. Thirdly, sex role theory focuses on the normative and subordinates whatever is inconsistent with the normative sex roles to a category of ‘deviance’. Finally, sex role theory cannot account for change in sex roles; change is viewed as something that happens to sex roles, something externally driven.

Connell argues that change in sex roles is generated by conflict in the relationships both within and between sexes. This critique formed the basis of a theory of hegemonic masculinity, outlined next.

1.3.3.1.3. Multidimensional socially constructed entities.

Connell (1995) suggested that gender did not exist in terms of expectations or identities, but was socially constructed; that 'men do masculinity'. She then suggested that men practiced a particular form of masculinity – one that he called 'hegemonic masculinity' – that maintained men's dominance both over women and over other subordinate masculinities.

Hegemonic masculinity was not considered to be normal in that it was the practice of the majority of men, but it was considered normative, in that it embodied the current most honoured way of being a man and required men to position themselves in relation to it

(Connell & Messerschmidt, 2005). Connell suggested that the majority of men practiced what she called complicit masculinity, in which the benefits of hegemonic masculinity could be enjoyed without necessarily reaching the hegemonic ideal. Connell proposed two other types of masculinity: marginalised and subordinated. Examples of marginalised men, according to Connell, are those with disabilities, who are not judged in relation to the hegemonic ideal. An example of subordination is the dominance of heterosexual over homosexual men, exemplified in terms of cultural, political, legal, and economic discrimination. Central to the idea of hegemonic masculinity is that the content or the ideal is subject to challenge and hence change. Nevertheless, current conceptualisations of hegemonic masculinity tend to be characterised by heterosexuality, toughness, power and authority, competitiveness, and the subordination of gay men (Connell, 1995).

Another recent theory of masculinity is known as the gender role strain paradigm (Pleck, 1981), which also considers gender to be socially constructed. The paradigm has a number of constituent assertions, namely that: contemporary gender roles are inconsistent and

contradictory; large numbers of individuals violate gender role norms; this violation leads to condemnation and has negative psychological consequences; the consequences to men of this violation are greater than for women; and certain gender role traits are often dysfunctional (e.g. aggression for men). The gender role strain paradigm proposed that, whilst there was a multitude of masculinities, each dependent upon the social context, there was, nevertheless, a traditional masculinity ideology that dominated the others; it was traditional in that it represented a dominant historical perspective (Levant, 1996). Conceptualisations of traditional masculinity ideology include the avoidance of femininity, fear and hatred of homosexuals, extreme self-reliance, aggression, dominance, non-relational attitudes towards sexuality, and restrictive emotionality (Levant et al., 2007).

The two theories outlined above both propose a primary, powerful form of masculinity in society that is multidimensional in nature and similar in content. They both suggest that relatively few men are masculine in the ways in which this masculinity would suggest, but that, nevertheless, other men in society position themselves relative to this dominant view of masculinity.

The measurement of masculinity, in the context of these theories, consists of the measurement of two constructs; the first is the character of the dominant form of masculinity itself, the second is individuals' positioning relative to this dominant form of masculinity. All measures, therefore, have their roots in a description of the multiple dimensions of this dominant form of masculinity, developed either by researchers or a combination of researchers and lay participants. Given the basis of these theories in social constructionism, however, this definition is, and must be, specific to the *Zeitgeist*.

Given a description of the dimensions of the dominant form of masculinity, instruments have measured individual positionings relative to these dimensions in three slightly different ways. Firstly, the Brannon Masculinity Scale (Brannon & Juni, 1984) and

the Male Role Norms Inventory - Revised (MRNI-R; Levant et al., 2007) each measure endorsement of these dimensions. Questions are phrased in the third person; example items from the MRNI-R are: “homosexuals should never marry” and “a man should always be the boss”. Secondly, the Conformity to Male Role Norms Inventory (CMNI; Mahalik et al., 2003), measures an individual’s behavioural conformity to these dimensions, rather than measuring their intellectual agreement with them. Hence, questions are phrased in the first person, example items being “I try to avoid being perceived as gay” and “I make sure people do as I say”. Thirdly, the Gender Role Conflict Scale (GRCS; O’Neil, Helms, Gable, David, & Wrightsman, 1986) measures gender role conflict or gender role strain directly. Questions are again phrased in the first person, but have a negative rather than a neutral tone; “I worry about failing and how it affects my doing well as a man”, “My work or school often disrupts other parts of my life (home, health, leisure)”.

Whilst there is variability in measurement and the number and character of the factors included in each of these measures, they correlate with each other better than did their predecessors (e.g. Levant & Fischer, 1998; Mahalik et al., 2003). They can also make other claims to better validity: showing expected sex and cultural differences (e.g. Levant et al., 2007; Mahalik et al. 2003) and non-correlation with similar but theoretically different measures (Levant & Fischer, 1998). Thus it seems that these measures of masculinity, viewing masculinity as socially constructed and acknowledging the cultural and temporal variations of the construct, do theoretical justice to the complexity of the construct. This justice appears to be borne out in tests of their construct validity.

1.3.3.1.4. Summary.

Three types of measure of masculinity have been used over the past few decades. The first measures were based on sex role theory and included those items distinguishing between males and females. The second group of measures were based on ideas about the relative

social desirability of personality traits for men and women, and were based on androgyny theory, an extension of sex role theory, but retained a categorical stance and were found to be too narrow in their scope. The third group of measures, currently the most popular, are theoretically based in social constructionism and view masculinity as a multi-dimensional construct; whilst there is variability in the way in which they measure masculinity, they appear to have construct validity.

Research using these measures of masculinity to investigate help seeking for depression is outlined below.

1.3.3.2. Sex, gender role orientation, and help seeking attitudes.

A number of studies have investigated the associations between sex and gender role orientation, as measured by categorical instruments such as the BSRI, with attitudes towards seeking psychological help. Such a comparison tests whether the biological construction of sex or the social construction of gender is most important in relation to the sex differences found in help seeking.

In samples of students (between 163 and 398 individuals) from the US, Turkey, and Singapore, both men and those scoring higher on masculinity had more negative attitudes towards seeking psychological help (Ang, Lim, Tan, & Yau, 2004; Johnson, 1988; Turkum, 2005). That both sex and gender role orientation were independently associated with attitudes towards seeking help indicated that gender role orientation alone was not capable of explaining the sex difference in these attitudes towards seeking psychological help. However, in a cohort of 800 individuals aged 35 years in West Scotland, gender role orientation at least partially mediated all sex differences in self-report measures of general and mental health and self-reported number of visits made to a General Practitioner (GP) during the previous year (Annandale & Hunt, 1990).

The evidence from these studies replicates the earlier findings that males tend to have poorer attitudes towards seeking psychological help than females (Section 1.3.2.2.).

However, it also suggests that this sex difference may be partly mediated by gender role orientation, although not entirely. This partial but not total mediation has been used to conclude that some aspects of help seeking are associated with the biological nature of sex and that others are associated with the social constructions of gender (e.g. Ang, Lim, Tan, & Yau, 2004). This conclusion is not particularly compelling given the lack of hypothesising in these studies; none of the studies provide a model of help seeking or any theoretical reasons why some factors might be biological and others might be societal. In addition, none of the studies adequately assesses its measure of gender role orientation, all relying on measures whose validity has been questioned (see Section 1.3.3.1.2.). As outlined above (Section 1.3.3.1.3.), measures that appear to have a greater validity are continuous in nature and better reflect the subtleties of masculinity and femininity and individuals' relationships with them.

Overall, there is some evidence to suggest that the oft-encountered difference between men and women in terms of their attitudes towards seeking psychological help may be better explained by the social constructions of gender rather than the biological construction of sex. However, this evidence is weakened by a neglect of hypothesis driven research and by the use of measures of gender role orientation whose validity is in question. Another group of studies have used more valid measures of masculinity; these will be outlined below.

1.3.3.3. Masculinity, gender role conflict, and help seeking attitudes.

Continuous measures of masculinity and gender role conflict all have a theoretical basis suggesting that hegemonic masculinity or traditional masculinity ideology serves to maintain dominance and the appearance of strength. As such, the measures include dimensions such as aggressiveness, dominance, and restrictive emotion (Section 1.3.3.1.3.). Higher levels of masculinity as defined by these dimensions would be theoretically associated

with more negative attitudes towards seeking help, often measured by factors such as interpersonal openness and recognition of need for help (Section 1.3.2.2.).

Studies conducting empirical investigations of the associations between masculinity / male gender role conflict and attitudes towards seeking psychological help have all done so in all-male samples using cross-sectional, correlational designs. The samples were all student samples, one convenience sample being the exception; sample sizes ranged from 105 to 575. A few tested hypotheses about relationships between subscales of the measures and two used the Theory of Planned Behaviour, a model frequently used in the prediction of behaviour (Ajzen, 1991), to inform their design (Pederson & Vogel, 2007; Smith, Tran, & Thompson, 2008).

These studies confirmed the hypothesis outlined above: higher levels of traditional masculinity ideology, gender role conflict, and conformity to male gender role norms are all associated with more negative attitudes towards seeking psychological help and fewer reported help seeking behaviours (Berger, Levant, McMillan, Kelleher, & Sellers, 2005; Blazina & Marks, 2001; Blazina & Watkins, 1996; Good, Dell, & Mintz, 1989; Good & Wood, 1995; Lane & Addis, 2005; Levant, Wimer, Williams, Smalley, & Noronha, 2009; McKelley & Rochlen, 2010; Pederson & Vogel, 2007; Robertson & Fitzgerald, 1992; Simonsen, Blazina, & Watkins, 2000; Smith, Tran, & Thompson, 2008; Wisch, Mahalik, Hayes, & Nutt, 1995). There is also evidence to suggest that attitudes towards seeking psychological help partially mediate an association between higher masculinity and lower intention or willingness to seek help (Pederson & Vogel, 2007; Smith, Tran, & Thompson, 2008).

1.3.3.4. Summary

Two different types of evidence investigating the impact of masculinity have been reviewed. Evidence supports the notion that higher masculinity, howsoever measured, is

associated with more negative attitudes towards seeking psychological help and fewer self-reported help seeking behaviours. Evidence suggests that the social construct of gender may be more important than the biological construct of sex in examining help seeking. There is also evidence to suggest that the effect of masculinity on help seeking intentions and willingness may be mediated by attitudes towards seeking psychological help. Studies investigating masculinity and help seeking, however, have tended to use convenience samples (often students), to be cross-sectional and correlational, predominantly exploratory in nature, and neglect, for the most part, to use a model of help seeking.

1.3.4. Sex, masculinity, and symptom perception

The evidence outlined thus far has found that men are less likely to perceive a need for help given a similar level of depression. It also appears that men and those scoring higher on measures of masculinity are more likely to have negative attitudes towards seeking psychological help than women and those scoring lower on measures of masculinity. These negative attitudes towards seeking psychological help have been associated with reduced willingness or intent to seek psychological help. Thus, it seems that, given symptoms of depression, men's reluctance to seek help may be associated with masculinity and its relationship with attitudes towards seeking help.

The evidence base that contributes to this understanding is less persuasive than it might be due to a neglect of theory-driven research and a reluctance to use models of help seeking to inform the design of studies. This neglect of models of help seeking has led to a foundation of untested assumptions, the most major of which is related to the beginning of the process. All the studies above assume that the process of help seeking begins with the perception of symptoms and that sex and masculinity impact on the process following this point. However, this leaves untested the hypothesis that sex or masculinity might impact on the perception of depressive symptoms themselves.

Studies examining the hypothesis that sex or masculinity might impact directly on symptom perception fall into four groups. The first have focused not on depressive symptoms specifically, but on the impact of gender or sex or the expression of negative affect. These studies provide a theoretical basis, by extrapolation, for the findings that might be expected in relation to depressive symptoms. The second group of studies have investigated the hypothesis that males experience depression in a fundamentally different fashion than do females. The third group of studies investigated the hypothesis that men and women differ not in the quality of their depressive symptom experience, but in the quantity of symptoms they are likely to report. The fourth and final group of studies investigate the relationship between masculinity and depressive symptom reporting. These studies are outlined, in turn, below.

1.3.4.1. Socialisation of emotion expression.

Theories of gender development (Section 1.3.3.1.) are premised on the idea that society is gendered and that children learn about gender expectations throughout childhood and adolescence. Recognising and responding to emotion is an area in which much gendered learning takes place (e.g. Eisenberg, Cumberland, & Spinrad, 1998) and it has been argued that this differential socialisation of the expression of emotion serves to maintain the power and status differences between men and women (e.g. Brody, 2000). In support of these ideas, differences in emotion expression between the sexes have been observed in preschool children (Brody, 1999; Saarni, 1984) and evidence suggests that this difference is associated with differential parental responding based on the sex of the child (Chaplin, Cole, & Zahn-Waxler, 2005; Eisenberg, Cumberland, & Spinrad, 1998). It is thought that boys and men are encouraged by this gender socialisation process to avoid responding to negative affect with “soft” emotions, such as sadness and fear, but instead via “hard” emotions, such as anger (Addis, 2008). Evidence supports this idea; one study found a 50% reduction in boys’

expressions of sadness and anxiety from preschool to early school age, a reduction that was associated with differential parental responding (Chaplin, Cole, & Zahn-Waxler, 2005). When combined with ideas about the phenomenological experience of emotion, which is considered by Barrett (2006) to be a basic biological substrate which is categorised using conceptual knowledge, it is possible that differential socialisation to emotions in male and female children could lead to different experiences of emotion in male and female adults. Specifically, males would be expected to be less likely to experience negative emotion as sadness or depression and more likely to experience it as anger, irritability, or not at all (Addis, 2008). This theory suggests that men and those higher in masculinity (by virtue of being more strongly socialised to gender stereotypes) would be less likely than women and those lower in masculinity to perceive symptoms of depression.

In its extreme form, this theory is compatible with the notion of a distinct male depressive syndrome, outlined in the next section.

1.3.4.2. Male depressive syndrome.

A male depressive syndrome was proposed following an intervention programme designed to reduce suicide rates on the Swedish island of Gotland by increasing GPs' knowledge of depression. Whilst the programme was deemed a success, the 60% reduction in suicides was almost all accounted for by a reduction in female suicides; the frequency of male suicides on the island remained virtually unchanged (Rutz, von Knorring, Pihlgren, Rihmer, & Wålinder, 1995). The authors argued that this demonstrated that the quality of depression was different for males and females and posited a 'male depression syndrome' characterised by 'atypical' symptoms of depression such as a sudden reduction in stress-tolerance, a sudden increase in impulsive-aggressive behaviour, and a sudden increase in endorphin/serotonin related behaviour (such as alcohol or drug misuse, workaholism, or working out) (Rutz, von Knorring, Pihlgren, Rihmer, & Wålinder, 1995; Rutz, 1999). This is

in line with other authors (e.g. Cochrane & Rabinowitz, 2000), who suggest that some men may avoid negative affect to such an extent that they may not appear sad or depressed; however, they may experience distress manifested in somatic pain, stress, or substance abuse. In relation to the causes of the male depressive syndrome, biological bases are cited (including differential effects of serotonin), as are sociological ones (including male's alexithymia and their incapacity to recognise depression and need for help) (Rutz, 2001). Researchers on Gotland developed the Gotland Male Depression Inventory and assessed its psychometric properties in a population of male patients treated for alcohol dependency (Zierau, Bille, Rutz, & Bech, 2002). Results suggested that the inventory consisted of two factors: a distress subscale and a depression subscale.

Despite work on this Swedish island, and the work on negative affect outlined above (Section 1.3.4.1.), there is no consensus in the wider literature in support of the notion that depression is qualitatively different in males and females. The evidence, which consists mainly of exploratory studies examining differences in symptoms reporting between the sexes, is reviewed below.

In US student populations (around 2,000 participants each), men and women reported similar levels of depression, but there were differences in the symptoms that they reported: depressed males were more likely to report somatic complaints, loss of social interest, a sense of failure, and an inability to cry; depressed females were more likely to report self-dislike and indecisiveness (Hammen & Padesky, 1977; Padesky & Hammen, 1981). In a sample of 152 teachers asked about 'non-clinical depressed mood states' every five years from 1978 to 1993, there were no significant sex differences in frequency or duration of these mood states, but women were more likely than men to say that they felt tearful and that they had an increase in appetite (Wilhelm, Parker, & Asghari, 1998). This finding that there are

differences in symptom reporting between men and women supports the notion that symptom perception or experience may be different in men and women.

In depressed populations there is some evidence to suggest that women are more likely than men to report changes in appetite and weight gain (Frank, Carpenter, & Kupfer, 1988; Young, Scheftner, Fawcett, & Klerman, 1990). There is also evidence to suggest that men are more likely to score higher on affective rigidity, blunted affect, hypochondriasis, and compulsive impulses (Winkler et al., 2004), as well as anger attacks (Winkler, Pjrek, & Kasper, 2005). Differences between the sexes have also been noted in terms of the correlations between symptoms. In one study of 450 individuals diagnosed with affective disorders, affective and cognitive symptoms were correlated in females, whereas affective and performance symptoms were correlated in males (Steer, Beck, & Brown, 1989). In another study of 97 depressed inpatients, for females, motor retardation and vagueness correlated with anxiety and hostility did not; for males, hostility correlated with anxiety whereas motor retardation and vagueness did not (Katz et al., 1993).

The evidence as presented above has led many authors to conclude that depression is a fairly homogenous construct with regard to gender (e.g. Steer, Beck, & Brown, 1989; Young, Scheftner, Fawcett, & Klerman, 1990) but has led others to focus on the differences and assert that there is evidence of a difference in the symptom presentation of males and females (e.g. Hammen & Padesky, 1977; Rutz, von Knorring, Pihlgren, Rihmer, & Wålinder, 1995; Winkler et al., 2004; Winkler, Pjrek, & Kasper, 2005). This inconsistency may be a consequence of the methodology employed in these studies. Firstly, no studies began with a priori predictions about where differences might be found between the sexes, what the magnitude of these differences might be, and why this might be the case. Secondly, there is inadequate attention paid to the choice of measure in these studies. The choice of measure determines where differences might be detected between the sexes; no differences will be

found in areas that are not measured and chance associations are more likely where the measure is comprised of a greater number of items. Given that the bulk of measures used are relatively short, they tend to measure the typical symptoms of depression and neglect the atypical ones, such as aggression, irritability, and anti-social behaviour (Möller-Leimkühler, Bottlender, Strauss, & Rutz, 2004). This means that differences in these areas will go undetected by these studies. Finally, there is little consideration of the potential bias of sampling in these studies. Individuals presenting for services, or already in receipt of services, will already have been assessed using clinical judgement and a variety of measures. These samples are therefore more likely to contain individuals presenting with typical symptom profiles than those with more unusual presentations, such as those characterised by aggression, irritability, and anti-social behaviour (Addis, 2008).

Two studies with stronger methodologies are those designed specifically to test the hypothesised 'male depression syndrome' outlined above (in this Section). The first examined whether the symptoms constituting this syndrome distinguished between male and female inpatients with depression (Möller-Leimkühler, Bottlender, Strauss, & Rutz, 2004). Questions from standardised psychiatric documentation used in a German psychiatric hospital were selected to correspond to each of the items of the Gotland Male Depression Inventory. Contrary to prediction, in a sample of 2,411 consecutively admitted patients, males did not score higher on any of the symptoms included in the Gotland Male Depression Inventory; in fact females had significantly higher total scores than males. If male depression, in comparison to female depression, was characterised by these atypical symptoms, then men would be expected to score higher than women on these items; this was not the case in this study. A factor analysis did find that atypical symptoms such as irritability, aggressiveness, and antisocial behaviour were more strongly inter-correlated in males than in females, although this has little meaning in the context of the previous finding. The major limitation of

this study was that it only included individuals presenting with depression in such a way as to reach inpatient services for depression; it excluded individuals presenting with lower levels of symptoms and those who were untreated.

A second study, in response to this limitation, used data from two measures completed by a community sample of young German men: a well-being measure and the Gotland Male Depression Inventory (Möller Leimkühler, Heller, & Paulus, 2007). The aim of the study was to test the hypothesis that young men tend to report more male distress than traditional depressive symptoms using the two factors of the Gotland Male Depression Inventory assumed to measure these constructs. The factors had been delineated in previous research (Zierau, Bille, Rutz, & Bech, 2002), which had outlined a distress subscale consisting of stress, aggressiveness, irritability, feelings of displeasure, over-consumption of alcohol and drugs, behaviour changes, and tendency to self-pity. The depression subscale consisted of exhaustion, tiredness, difficulty in decision-making, sleep problems, hopelessness, and family history of depression or suicide. Unfortunately, a factor analysis of the inventory found no support for these two factors in the young German sample and, in the absence of a measure of depression, there were inadequate data to perform further meaningful analyses.

In summary, when the typical symptoms of depression are considered, evidence suggests there is little to choose between the sexes in terms of the quality of the symptom profile. When less typical symptoms of depression are considered, there is evidence to suggest that females may be more likely than males to report changes in appetite and weight, and that males might be more likely than females to report anger and aggression. This evidence is undermined by a reliance on weak exploratory methods and severe methodological limitations where prediction and hypothesis-testing have been used.

1.3.4.3. A difference of quality or quantity?

Whilst the studies above investigated the hypothesis that males and females differ in terms of the quality of depressive symptoms, others have investigated the hypothesis that they differ in terms of the quantity of depressive symptoms.

A sample of 591 young Swiss individuals was asked about depressive symptomatology as part of a detailed diagnostic interview conducted three times over three years (Angst & Dobler-Mikola, 1984). In examining data on extensive episodes of dysphoric mood, little difference was found between the sexes in the rates three months prior to interview, however, more remote episodes (4-12 months prior to interview) were reported by females more often than males. The authors suggested that this was a result of men forgetting remote episodes whereas women remembered them, although no objective data support this assertion. In addition, the authors found that men reported, on average, fewer symptoms of depression than women. The authors suggested that men's tendency to report fewer symptoms and to forget more remote episodes of depression might account for some of the sex difference found in the lifetime prevalence rates of depression.

The finding that men report fewer symptoms of depression than women has been replicated in other non-clinical populations, typically population samples of at least 1,800 participants (Angst et al., 2002; Ernst & Angst, 1992; Fennig, Schwartz, & Bromet, 1994; Young, Fogg, Scheftner, Keller, & Fawcett, 1990), but there is less support for the second finding that men tend to forget more episodes than women (one study found a non-significant trend in this direction (Fennig et al., 1994)). Further analyses have led to the conclusion that, whilst there is a sex difference in number of symptoms reported, it is not of sufficient magnitude to explain the sex difference in the prevalence of depression at diagnostic level (Fennig et al., 1994; Young et al., 1990).

In populations of those diagnosed with depression, some studies have replicated the result above, finding that depressed women score higher on depression measures than men (Kornstein et al., 1995; Kornstein et al., 2000) whereas others have found that men and women report similar levels of depression and similar numbers of symptoms (Frank, Carpenter, & Kupfer, 1988; Hildebrandt, Stage, & Kragh-Soerensen, 2003; Steer, Beck, & Brown, 1989; Young, Scheftner, Fawcett, & Klerman, 1990).

In summary, there is some evidence to suggest that men report fewer depressive symptoms than females, although this difference is slight and not of sufficient magnitude to account for the gender difference in prevalence of depression.

1.3.4.4. Masculinity and depressive symptoms.

A final group of studies has investigated associations between masculinity and depressive symptom reporting.

Given evidence to suggest that, when compared to women, men report fewer symptoms of depression (Section 1.3.4.3.), it could be hypothesised that higher levels of masculinity would be associated with fewer reported depressive symptoms (as men are likely to be more masculine than women). This would also make theoretical sense given the theories of masculinity as outlined above (Section 1.3.3.1.3.), both of which suggest that the dominant form of masculinity discourages emotional expression and the admittance of weakness in men. Men who position themselves closer to this dominant form of masculinity may therefore be less likely to report depressive symptoms (Addis, 2008, Cochrane & Rabinowitz, 2000). Finally, on the basis of theories about gender socialisation and negative affect (Section 1.3.4.1.) it could be hypothesised that men who had been more strongly socialised to experience negative affect as anger rather than sadness, might be likely to score lower on measures of depression.

Empirical investigations using measures of gender role orientation – either the BSRI or the PAQ – have used non-clinical samples (primarily students) and the majority have used samples of both males and females. These studies have consistently demonstrated an association between higher masculinity and fewer reported depressive symptoms in both male and female populations (Annandale & Hunt, 1990; DeGregorio & Carver, 1980; Elpern & Karp, 1984; Feather, 1985; Lengua & Stormshak, 2000; Li, DiGiuseppe, & Froh, 2006; Lu & Wu, 1998; Nezu & Nezu, 1987; Nezu, Nezu, & Peterson, 1986; Sanfilipo, 1994; Stoppard & Paisley, 1987; Whitley, 1985; Wilson & Cairns, 1988; Wupperman & Neumann, 2006; Zeldow, Clark, & Daugherty, 1985).

Studies using measures of gender role conflict (for example the GRCS), again in predominantly student samples, have found an association between higher male gender role conflict and higher reported levels of depression (Blazina & Watkins, 1996; Good, Robertson, Fitzgerald, Stevens, & Bartels, 1996; Good et al., 1995; Good & Wood, 1995; Mertens, 2001; Simonsen, Blazina, & Watkins, 2000). A study using a measure of Masculine Gender Role Stress (Eisler & Skidmore, 1987) found that increased gender role stress was associated with increased levels of depression.

Finally, the only known study to investigate the association between depression and masculinity, as measured in a neutral fashion (using the CMNI), compared scores on the Brief Symptom Inventory (BSI; Derogatis, 1993) with scores on the CMNI in 137 male students. There was no significant association between scores on the depression subscale of the BSI and the total score on the CMNI. There was a significant association between total scores on the CMNI and total scores on the BSI, which was taken to indicate that higher conformity to male gender role norms was associated with increased psychological distress. This association, however, was mainly accounted for by the associations with the subscales of hostility and social comfort (Mahalik et al., 2003).

Theoretical predictions suggest that masculinity would be associated with fewer reported depressive symptoms. Studies found that more masculine individuals, as measured by measures of gender role orientation, reported fewer depressive symptoms. Studies using measures of gender role conflict, which are highly correlated with continuous measures of masculinity (e.g. Levant, Rankin, Williams, Hasan, & Smalley, 2010; Mahalik et al., 2003) found that higher gender role conflict was associated with more reported depressive symptoms. The one study using a continuous measure of masculinity, found no association between masculinity and reported depressive symptoms.

These differences are most likely due to differences in the measures and the constructs underlying them. In their development, measures of gender role orientation contain a bias to the positive attributes of masculinity, asking people to classify personality traits as socially desirable either for males or females. The masculinity scales of these instruments have consequently been criticised on the basis that they are simply measures of instrumentality. In contrast, measures of gender role conflict are biased towards the negative aspects of masculinity, focusing on the negative impact of masculinity on individuals' lives – in fact they could themselves be considered measures of distress – and it is therefore unsurprising that these correlate positively with reports of distress on depression measures. The only measure designed to assess masculinity from a balanced perspective (the CMNI) did not find an association between masculinity and depression.

In summary, the associations that have been demonstrated between masculinity and depression appear to be dependent on the measure of masculinity that is chosen. Measures with a positive bias suggest higher masculinity is associated with lower depression, measures with a negative bias suggest higher masculinity is associated with higher depression. There is little evidence in relation to measures that are more neutral or balanced.

1.3.4.5. Summary.

Research supports the notion that males and females are socialised differently to the recognition and expression of emotion; males are discouraged from expressing emotions such as sadness and fear and encouraged to express anger. Theory suggests that this differential socialisation may impact directly on the experience of emotion, or the perception of symptoms. By extension, depression would be expected to have a different quality in males and females. Efforts to demonstrate this empirically have not yielded compelling results, although there is some evidence to suggest that men report different and fewer symptoms of depression. There is also evidence linking masculinity to depression, although this is confounded by bias in measures of masculinity. However, a promising avenue of further research in this area is that provided by a model of symptom perception, which is the focus of the next section.

1.3.5. Model of symptom perception.

The model of symptom perception was developed to investigate a female excess of symptom reporting in general practice compared to males (Gijsbers van Wijk & Kolk, 1997). It was later suggested that this model might provide an insight into men's help seeking behaviours for depression (Moller-Leimkuhler, 2002). Specifically, it was proposed that masculinity or gender role orientation might have an impact on the factors of the model, which would consequently influence the perception of depressive symptoms. The model in its original form is outlined below, followed by a review of relevant evidence.

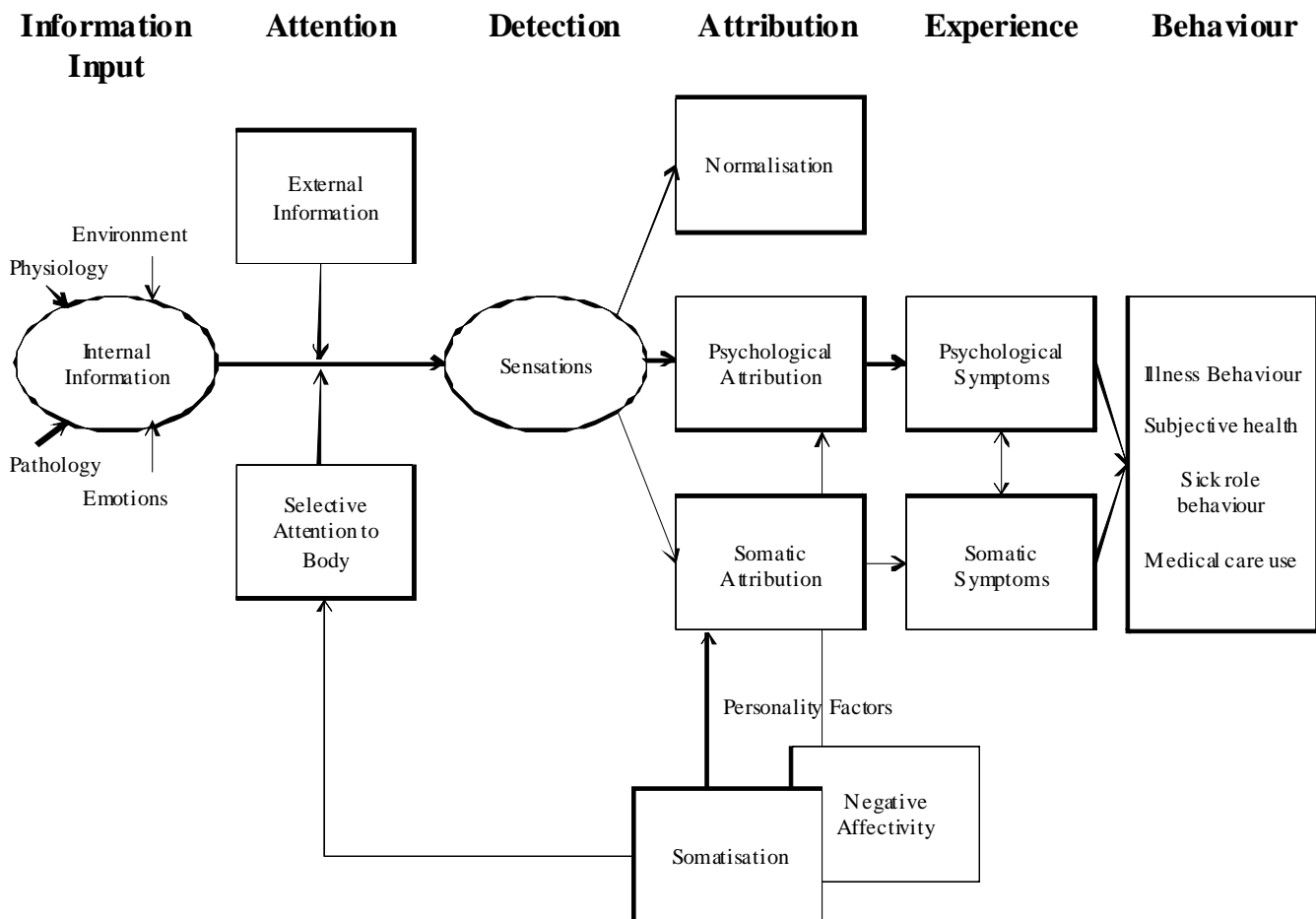


Figure 1: Model of symptom perception. From Gijsbers van Wijk and Kolk (1997)

1.3.5.1. Outline of the model.

According to the model (Figure 1), internal information is the starting point of symptom perception. The model rejects the traditional linear relationship between peripheral physiological changes and related subjective sensations, but retains the assumption that the perception of symptoms is preceded by peripheral somatosensory stimuli, however mild or ambiguous. Internal information can be triggered by physiological fluctuations in normal bodily processes, emotions, environmental conditions, or by illness or disease.

The model proposes that the likelihood of this internal information reaching the level of a conscious sensation is affected by two factors. The first is the quality and quantity of external information in the environment, which is thought to affect attentional demands and thus the tendency to attend to internal cues. The second is a trait-like disposition to focus

attention internally or externally, known as selective attention to the body. Internal information that receives an individual's attention is experienced as a sensation.

According to the model, sensations are attributed to one of three groups of possible causes: a normal response to environmental conditions (normalisation), a sign of a somatic problem (somatic attribution), or a sign of psychological distress (psychological attribution). If an individual has experienced a sensation and attributed it to a psychological or somatic cause, they perceive a symptom. This perception of a symptom is, in turn, associated with illness behaviour.

The model also proposes two personality characteristics that influence an individual's tendency to attend to their body and also to attribute sensations to differing causes.

Somatisation is defined as the tendency to experience or express psychological states as somatic symptoms. In this model, somatisation is thought to promote both selective attention to body and somatic attribution, and hence the degree to which individuals perceive somatic symptoms. According to the model, it may also have a direct influence on symptom perception, although the mechanism of this effect is not explained. Negative affectivity is defined as a general tendency to subjective distress and dissatisfaction. It is presumed, in the model, to increase both selective attention to body and a psychological attributional style and is also hypothesised to have a direct effect on current psychological distress, i.e. on the input to the model.

In summary, the model incorporates three direct determinants of symptom perception: external information, selective attention to body, and attributional style, as well as two primarily indirect determinants: negative affectivity and somatisation.

1.3.5.2. Evidence in support of the model of symptom perception

Despite a suggestion that this model may prove useful in examining men's help seeking for depression, it has not been tested in this context. In fact, the model as a whole has

only been tested in a single study, investigating reporting of common physical symptoms. Whilst there was no evidence in support of the expected sex difference in symptom reporting, there was evidence that an association between age and symptom reporting was mediated by selective attention to the body, negative affectivity, as well as chronic disease (Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003).

The bulk of the evidence in relation to the model, therefore, considers single factors included in the model; this evidence is outlined below. Evidence relating to masculinity and the model of symptom perception is drawn from evidence investigating masculinity, but also evidence relating to sex differences. This is because of the scarcity of evidence in relation to masculinity and is based on the assumption (that also underlies the development of masculinity measures) that men are likely to be more masculine than women.

1.3.5.2.1. External Information

The model suggests that external information competes with internal information for attention; it is therefore hypothesised that higher levels of external information will be associated with reduced symptom perception. Experimental evidence supports this notion: participants were found to report more symptoms when instructed to attend to their internal rather than their external environments (Fillingim & Fine, 1986; Padgett & Hill, 1989; Pennebaker & Lightner, 1980). Studies using a measure of external information have found that, as predicted by the model, increased quality and quantity of external information is associated with lower levels of both physical symptom reporting (Bekker, Croon, & Vermaas, 2002; Gijsbers van Wijk, Huisman, & Kolk, 1999; Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003) and depressive symptom reporting (de Rikj, Schreurs, & Bensing, 1999; Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003). Finally there is also evidence to suggest that dull occupational and residential environments are associated with increased symptom reports (Moos & Van Dort, 1977; Wan, 1976).

In relation to men and masculinity, theories suggest that hegemonic masculinity or traditional masculinity ideology encourage men to retain power and authority, to be extremely self-reliant, and to avoid showing emotion. This suggests that men in general, and men more closely positioned to these ideals in particular, might be more likely to work towards and achieve positions of authority in society, which are likely to require a significant time commitment; i.e. to result in a high level of external information. Despite these assertions, there is no empirical evidence to demonstrate sex or gender role differences in the quantity or quality of external information to which individuals are exposed (Gijsbers van Wijk & Kolk, 1996; Gijsbers van Wijk, Huisman, & Kolk, 1999; Kanner, Coyne, Schaefer, & Lazarus, 1981; Kohn & MacDonald, 1992; Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003).

1.3.5.2.2. Selective attention to body.

The model suggests that higher levels of selective attention to the body are associated with greater symptom perception. In support of this assertion, higher levels of selective attention to the body have been associated with increased physical symptom reporting (Barsky, Goodson, Lane, & Cleary, 1988; Bekker, Croon, & Vermaas, 2002; Shields, Mallory, & Simon, 1989; Spoor, Bekker, Van Heck, Croon, & Strien, 2005) and increased depressive symptom reporting (Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003).

In relation to men and masculinity, theory posits that men are discouraged from attending to and expressing their emotions and are encouraged to remain tough and powerful (e.g. Addis, 2008; Levant et al., 2007). By extension, men in general, and men more closely positioned to these ideals in particular, would be expected to be less likely to attend to their bodies than women or men less closely aligned to these masculine ideals. Empirically, evidence suggests that women tend to score higher than men on measures of self-reported awareness to normal body processes (e.g. Bekker, Croon, & Vermaas, 2002; Gijsbers van

Wijk & Kolk, 1996; Shields, Mallory, & Simon, 1989). One study included a measure of gender role orientation but did not report the association, just that gender role orientation did not mediate the sex difference (Gijsbers van Wijk & Kolk, 1996).

1.3.5.2.3. Symptom attribution.

In the context of the model, symptom attribution is a process in which symptoms are attributed to one of three possible groups of causes, psychological, somatic, or normative; the model hypothesises that tendencies to particular types of attribution would be associated with similar tendencies in terms of symptom perception. A tendency to psychological attribution has been associated with both increased physical and depressive symptom reporting (Kirmayer & Robbins, 1996; Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003; Robbins & Kirmayer, 1991). A tendency to somatic attribution was associated with lower depression scores in two studies (Kirmayer & Robbins, 1996; Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003) and with higher physical symptom reporting in two studies (Bekker, Croon, & Vermaas, 2002; Spoor, Bekker, Van Heck, Croon, & Strien, 2005), and was unrelated to symptom reporting in another (Robbins & Kirmayer, 1991). Somatic and normalising attributions were also associated with a lack of recognition of disorder by GPs, even after controlling for other factors, including severity of disorder (Kessler, Lloyd, Lewis, & Gray, 1999).

In relation to men and masculinity, the discouragement of men from expressing their emotions and showing weakness (e.g. Section 1.3.4.1.) might be expected to result in a reduced tendency to attribute sensations to psychological causes. Research has shown that women are more likely than men to favour psychological attributions of sensations (Robbins & Kirmayer, 1991; Gijsbers van Wijk & Kolk, 1996), whereas men are more likely to favour somatic or normalising attributions (Kirmayer & Robbins, 1996; Kessler, Lloyd, Lewis, & Gray, 1999). There is no known evidence in relation to masculinity.

1.3.5.2.4. *Somatisation and negative affectivity.*

According to the model, increased levels of negative affectivity and somatisation are associated with increased symptom reporting. Research supports this assertion (Bekker, Croon, & Vermaas, 2002; Gijsbers van Wijk & Kolk, 1996; Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003).

Research into sex differences in somatisation has found that females score higher on somatisation than males in both student and patient samples (Rief, Hessel, & Braehler, 2001; Gijsbers van Wijk & Kolk, 1996). In terms of pathological levels of somatisation (e.g. somatisation disorder) females are consistently over-represented when compared to males (APA, 1994). With regard to negative affectivity, the findings are equivocal. Two studies, using samples of students and staff of a US Methodist university and an adult church sample, found no sex differences in negative affectivity (Watson, Clark, & Tellegen, 1988; Watson & Pennebaker, 1989), another study using a student sample found the females scored significantly higher than males on negative affectivity (Joiner & Blalock, 1995) and yet another found no difference between the sexes in a student sample, although female patients scored higher than male patients on negative affectivity (Gijsbers van Wijk & Kolk, 1996). There is no known research with regards to masculinity and these two aspects of the model.

1.3.5.2.5. *Summary*

In summary, there is preliminary evidence to support the utility of this model in explaining symptom perception in general, but investigations into in relation to men's perception of depressive symptoms are in their infancy.

1.3.6. Why don't men seek help for depression? Overall summary.

The literature relating to men's lack of help seeking behaviour for depression has been categorised into three groups of studies. The first group investigated sex differences in help seeking attitudes and behaviours (Section 1.3.2.); the second group examined

associations between masculinity and help seeking attitudes and behaviours (Section 1.3.2.); and the third group examined associations between sex, gender and the quality or quantity of depressive symptoms (Section 1.3.4.).

There is evidence to suggest that men are less likely than women to perceive a need for help given a similar level of symptomology. This might lead to a reduction in men's help seeking behaviour as compared to women's, although no study has demonstrated this empirically. There is evidence to suggest that men and individuals higher in masculinity have poorer attitudes towards seeking psychological help than women. Negative attitudes towards seeking help psychological have been associated with low intentions or willingness to seek psychological help. Despite this evidence, a reliance on exploratory methods and a lack of emphasis on models of help seeking has led to a relative lack of attention on the first stage of the help seeking process: the perception of depressive symptoms themselves. The available evidence suggests that men are differentially socialised to emotion and may therefore perceive or report different or fewer symptoms of depression. Masculinity has been associated with levels of symptom reporting, although this appears to have been confounded by the instrument used to measure masculinity. There is also evidence that these differences in the perception of symptoms may be explained by a model of symptom perception. This model of symptom perception constitutes a promising direction for future research, making clear, testable predictions about how, where, and why associations might be found between variables. However, despite suggestions that it might prove useful in investigating men's help seeking for depression, it has not yet been tested in this context.

1.4. Aim of The Study

This study seeks to address the lack of theoretical foundation of previous research paradigms by beginning from a clear theoretical position. It takes its cue from the fact that all

models of help seeking begin with the perception of some kind of symptom. This study focuses on this first stage of help seeking and is concerned solely with the perception of depressive symptoms. As outlined above, there is evidence to suggest that there may be a sex difference in the perception of depressive symptoms and evidence to suggest that this may be associated with masculinity. This study therefore aims to test the prediction that masculinity is associated with differences in the perception of the symptoms of depression. It aims to test the model of symptom perception outlined above and examine its ability to explain differences in symptom perception amongst a group of males.

1.4.1. Research question and hypotheses.

The research question of this study is: “Do the factors of the model of symptom perception mediate a relationship between higher masculinity and fewer reported depressive symptoms?”

Eight hypotheses will be tested; an illustration of how they fit together is provided in Figure 2.

H1: Higher masculinity is associated with fewer reported depressive symptoms

H2: Higher masculinity is associated with increased external information

H3: Higher masculinity is associated with reduced attention to the body

H4: Higher masculinity is associated with reduced tendency to psychological attribution

H5: Increased external information is associated with more reported depressive symptoms

H6: Reduced attention to the body is associated with fewer reported depressive symptoms

H7: Reduced tendency to psychological attribution is associated with fewer reported depressive symptoms

H8: The model provides some explanatory power (H2 to H7 mediate H1)

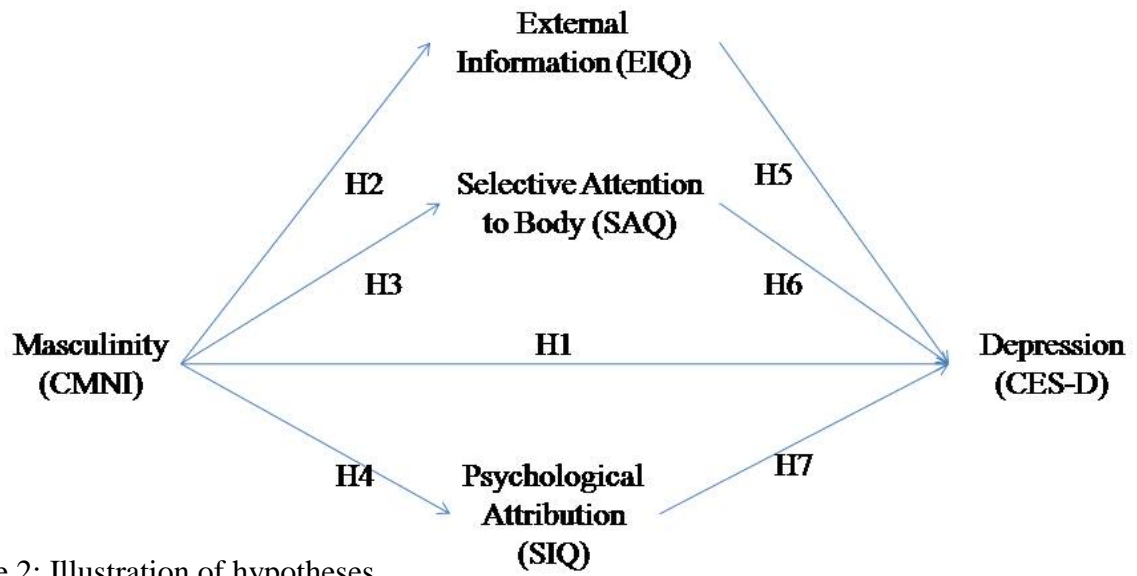


Figure 2: Illustration of hypotheses

2. Method

This section will outline the methodology employed during the study, from ethical approval through to data analysis.

2.1 Design

The study was cross-sectional and correlational, using data from a single time point, and aimed to test whether the factors of the model of symptom perception mediated any relationship between masculinity and self-reported depressive symptoms.

2.2 Participants

The study population consisted of males targeted through large employers. This sampling method was chosen so as to recruit a diverse population of males. It was recognised that males who were unable to work as a result of depression or other illness would not be recruited via this strategy, but it was expected that it would include a broad sample of men with different levels of depression. Organisations across East Anglia with substantial and diverse workforces were invited to take part.

2.2.1. Inclusion criteria.

The only inclusion criterion for the study was male gender.

2.2.2. Exclusion criteria.

There were no exclusion criteria.

2.2.3. Power Calculation.

To achieve adequate power for the study as a whole, the sample size had to exceed that for the test requiring the greatest sample size (see Figure 2). Two statistical procedures were planned for the analysis; correlations (to test hypotheses one to seven) and a multiple regression (to test hypothesis eight). Multiple regression procedures require larger sample sizes than correlations, so the power calculation for the study was based on the multiple

regression analysis planned to test hypothesis eight. In the absence of known pre-existing data, an estimate of a small to medium effect size ($F^2=.09$) was used for the purposes of this calculation. The algorithm for multiple regression analysis in GPower (Erdfelder, Faul, & Buchner, 1996), with depression as the dependent variable and four predictors (masculinity, external information, selective attention to body, and attribution), an F^2 value of .09, an alpha level of .05 and a power of .95, resulted in an estimated sample size of 212 to achieve adequate power.

2.3 Measures

Whilst age was not relevant to the inclusion or exclusion criteria of this study, given the recruitment strategy of targeting potential participants via employers, it was expected that the majority of the participants would be adults of working age. The six measures for this study (including basic demographic information) were therefore selected from measures designed for adults of working age. Copies of all measures used are provided in Appendix B.

2.3.1. Basic demographic information.

Basic demographic information was collected for two purposes. The first was to provide a description of the study sample in order to indicate the generalisability of the results. The second was to explore whether there were any differences in the results based on these demographic details. Information about age bracket, marital status, educational status, occupational status, cultural background, and household income bracket was collected.

2.3.2. Depressive symptoms.

The measure of depression chosen for this study was The Center for Epidemiologic Studies Depression Scale (CES-D), as it is a well-validated measure for assessing the level of depression in non-clinical populations.

2.3.2.1. Center for Epidemiologic Studies Depression Scale (CES-D)

The CES-D was developed to identify depression in the general population (Radloff, 1977). It has a particular focus on the affective symptoms of depression: depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. It was argued that these symptoms could be experienced in the absence of depression, but would be countered by positive affect; accordingly, four items are included to measure this positive affect. The 20-item measure takes around seven minutes to complete and asks about the previous week. Examples of the items are: "I was bothered by things that usually don't bother me" and "I felt hopeful about the future" (reverse scored). Each item is rated on a four point Likert scale ranging from 'rarely or none of the time' to 'most or all of the time', scored 0-3, except the four positive items, where this is reversed. The total score is the sum of each of the items; a higher score indicates higher presence of symptoms. A commonly used cut-off to indicate probable depression is 16 (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977).

2.3.2.2. Psychometric properties of the CES-D.

2.3.2.2.1. Reliability

Inter-item reliability estimates for the CES-D range from $r = .80$ to $r = .90$ (Radloff, 1977; Roberts, 1980). Test-retest reliability, assessed at intervals ranging from two weeks to one year is estimated between $r = .40$ and $r = .70$ (Devins et al., 1988; Radloff, 1977).

2.3.2.2.2. Validity

An early study investigated the content, concurrent, and discriminate validity of the CES-D across five populations: a community sample, currently depressed individuals, individuals in remission from depression, those with alcohol problems, and those with a diagnosis of schizophrenia (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). In this study, the CES-D was found to have content validity; its items corresponded to those

found in other measures of depression and diagnostic manuals, such as the Zung depression scale (Zung, 1965) and the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). It correlated highly with other measures of depression and correlated more highly with measures of depression than measures of other disorders. It was also found to discriminate between the acutely depressed and those in remission from depression, as well as between depressed and non-depressed subsamples of those with schizophrenia or alcohol problems. The authors concluded that the CES-D was a good measure of symptom level in general populations and psychiatric populations. In a later study, the CES-D was found to be highly associated with diagnostic assessment and, in the cases where there were discrepancies, these were explained by diagnostic exclusion criteria, other psychiatric diagnoses, or nay-saying during the interview (Boyd, Weissman, Thompson, & Myers, 1982). Factor analytic studies have repeatedly found that a four-factor solution fits the data well, the factors being: depressed affect, positive affect, somatic and retarded activity, and interpersonal difficulties (Hertzog, van Alstine, Usala, Hultsch, & Dixon, 1990; Knight, Williams, McGee, & Olaman, 1997; Radloff, 1977).

There are limitations of the measure, namely that it does not differentiate between individuals with a primary and secondary diagnosis of depression (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977), that it is not linked with the diagnostic criteria for depression (as defined by the DSM-IV or ICD10), and that it is not as sensitive as other measures in detecting change over time in depressed populations (Eaton, Muntaner, Smith, Tien, & Ybarra, 2004).

These limitations did not affect the use of the instrument in the current study and hence the instrument was considered appropriate for use in this study.

2.3.3. Masculinity.

A detailed history of the concept and measurement of masculinity is provided in the Introduction (Section 1.3.3.1.). This discussion concluded that the most reliable and valid measures of masculinity were continuous measures based on a theoretical framework of masculinity. It was also noted that these theoretical frameworks were necessarily specific to their zeitgeist, so that measures were effectively designed for use in particular populations. Following this conclusion, the best measure of masculinity for the purposes of this study would be a recent measure designed in the United Kingdom. However, given the relatively low level of interest in this area as compared to the United States of America, there are no recent measures of masculinity designed in the United Kingdom. Measures that were designed in the United States of America were therefore the second best option given the commonalities of language and some cultural similarities, although it is recognised that this option does represent a compromise and that there are important differences between the UK and US populations. This decision left a choice between the Brannon Masculinity Scale, the Conformity to Male Role Norms Inventory, and the Male Role Norms Inventory – Revised.

The Brannon Masculinity Scale (Brannon & Juni, 1984) has 110 items divided into four factors, which are based on an earlier analysis of what Americans believed a man was supposed to be, to succeed in, and to want (Brannon, 1976). The scale is designed to tap endorsement of traditional masculinity ideology and consists of statements to be rated on a seven-point Likert scale. Examples of these statements are: “I like for a man to look somewhat tough” and “A real man enjoys a bit of danger now and then”. The four subscales are: “no sissy stuff” (consisting of avoiding femininity and concealing emotions); “the big wheel” (consisting of being the breadwinner and being admired and respected); “sturdy oak” (consisting of toughness and the male machine); and “give ‘em hell” (consisting of violence / adventure). These subscales were found to have adequate reliability (alphas ranged from .77

to .87), and the measure as a whole had high internal consistency (alpha of .95) (Brannon, Juni, & Grady, undated). The test retest coefficient over four weeks in a student population was .92 (Brannon & Juni, 1984). A shorter 58 item scale is available which was found to be highly correlated with the longer version (Brannon & Juni, 1984), but does not provide separate subscale scores. In student samples, the scale has found to be correlated with self-reported traditional masculine behaviour (Brannon & Juni, 1984), as well as sexist and homophobic attitudes, so-called Type A behaviour (behaviour that is impatient, time-conscious, competitive, ambitious, business-like, and aggressive), and asymmetrical power relationships with a female partner (Thompson, Grisanti, & Pleck, 1985). This measure thus has a strong theoretical background and data to suggest that it has adequate reliability and validity in student populations of the United States of America. However, it has been noted that this scale contains redundancy and overlap between the subscales that threatens its construct validity and also that it does not contain any assessment of attitudes in relation to homosexuality, non-relational sex, men's rights, or men's privileges, which are considered by many to be basic dimensions of the male role (Levant et al., 1992; Thompson, Pleck, & Ferrera, 1992). Other difficulties with this scale include its relative age (it was designed in the 1980s) and that it has only been tested in populations of United States students.

The Conformity to Male Role Norms Inventory (CMNI; Mahalik et al., 2003) is again based on an assessment of American masculine norms, and is designed to assess an individual's conformity to these norms, asking about their behaviour in relation to them. Example items from the measure are: "I try to avoid being perceived as gay" and "I make sure people do as I say". The theoretical basis was derived from a review of the literature and two focus groups of psychology students meeting weekly for 90 minutes over a period of 8 months. This process resulted in 12 factors where each factor had 12 items. A factor analysis of this scale, using data from 752 male students produced a 94 item instrument with 11

factors. The 11 factors are winning, emotional control, risk-taking, violence, dominance, playboy, self-reliance, primacy of work, power over women, disdain for homosexuals, and pursuit of status. The internal consistency coefficient was .94 for the total CMNI score in a sample of male and female students; for the subscales the coefficients ranged from .72 to .91. Test-retest reliability over 2-3 weeks was tested in 40 male students; the alpha coefficient for the total score was .95 (Mahalik et al., 2003). The CMNI also correlated positively with other measures of masculinity and the majority of the hypothesised relationships between the subscales of the CMNI and other measures of masculinity were supported (Mahalik et al., 2003).

This measure is strong in terms of its theoretical basis; clearly a great deal of time and thought has gone in to the measure. That 11 factors were supported by this process supports the notion that masculinity is a multi-dimensional construct and supports the utility of this measure in tapping 11 of these dimensions. However, the questionnaire was again designed and validated in an academic environment using academic samples, which is a severe limitation for a measure designed to assess masculinity in a broader population. The 94-item questionnaire also takes a significant amount of time to complete.

Finally, the Male Role Norms Inventory - Revised (MRNI-R; Levant et al., 2007) is an update of the original Male Role Norms Inventory (MRNI; Levant et al., 1992). These instruments are designed to assess an individual's endorsement of traditional masculinity ideology; they consist of statements about the male role with which respondents rate their agreement or disagreement. Example items from the revised version are: "homosexuals should never marry" and "a man should always be the boss". Both instruments have seven subscales and both were derived from a theoretically-driven process in which doctoral students and faculty staff collaboratively developed seven domains and wrote items to assess each. The later revision either selected items from the original instrument or wrote new ones.

The resultant revised instrument (MRNI-R) is a 53-item instrument with seven subscales: avoidance of femininity, fear and hatred of homosexuals, extreme self-reliance, aggression, dominance, non-relational sexuality, and restrictive emotionality. Internal consistency coefficients were .96 in a sample of male and female students (Levant et al., 2007) and .97 in a later all male sample of students (Levant, Wimer, Williams, Smalley, & Noronha, 2009). The measure was also found to correlate significantly with other measures of masculinity, including the CMNI and the GRCS (Williams, Smalley, Richmond, & Levant, 2007).

The CMNI and the MRNI-R were both recently developed measures with good theoretical bases and good psychometric data. They also correlated well with each other. Given concerns about the time taken to complete the 96-item CMNI, the MRNI-R was thought the most appropriate measure for the purposes of the current study.

2.3.3.1. Male Role Norms Inventory – Revised (MRNI-R)

The MRNI-R (Levant et al., 2007) is a 53-item questionnaire developed as an update to the original MRNI (Levant et al., 1992). It is based on a theoretically derived definition of traditional masculinity ideology, comprising seven domains, and assesses level of endorsement of this traditional masculinity ideology. The instrument consists of 53 statements about traditional masculinity ideology, grouped into seven subscales: avoidance of femininity, fear and hatred of homosexuals, extreme self-reliance, aggression, dominance, non-relational sexuality, and restrictive emotionality. Respondents are asked to endorse, or otherwise, each of the statements by rating them on a seven point Likert scale ranging from 1: ‘*strongly disagree*’ to 7: ‘*strongly agree*’, the centre being 4: ‘*no opinion*’. All items are scored in the same direction; there are no reversed items. Examples of statements included in the measure are: “homosexuals should never marry” and “a man should always be the boss”. Subscale and total scores are the mean of the relevant items; higher scores indicate higher endorsement of traditional masculinity ideology. There are no predetermined cut-off scores.

2.3.3.2. Psychometric properties of the MRNI-R.

2.3.3.2.1. Reliability

The original MRNI (Levant et al., 1992), was used to investigate a variety of masculinity ideologies over 15 years (Levant & Richmond, 2007), providing extensive data about its reliability and validity. Improved reliabilities were found for the MRNI-R and its subscales as compared to the MNRI; internal consistency coefficients were .96 in a sample of male and female students (Levant et al., 2007) and .97 in a later all male sample of students (Levant, Wimer, Williams, Smalley, & Noronha, 2009). A later study reported the internal consistency of each factor; these ranged from .78 to .96 (Levant, Rankin, Williams, Hasan, & Smalley, 2010). A search of papers on the MRNI-R did not reveal any test-retest data.

2.3.3.2.2. Validity

The MRNI-R is based on a theoretical group of seven subscales which were developed by staff and postgraduate students of an American university. The seven dimensions have face validity and are similar to dimensions of other measures of masculinity. The factor structure of the MRNI-R was supported in 593 undergraduates (including 251 women) (Levant, Rankin, Williams, Hasan, & Smalley, 2010). In examining concurrent validity, it was found that the MRNI-R correlated significantly with four other measures of masculinity (Levant, Rankin, Williams, Hasan, & Smalley, 2010). The four measures were the Male Role Attitudes Scale (Pleck, Sonenstein, & Ku, 1994b), the CMNI (Mahalik et al., 2003), the GCRS (O'Neil, Helms, Gable, David, & Wrightsman, 1986), and the Normative Male Alexithymia Scale (Levant et al., 2006). The MRNI-R was also able to discriminate between males and females (males scored higher than females) and between African Americans and European Americans (the former scored higher than the latter); these findings are consistent with previous research and provide further support for its validity (Levant et al. 2007).

2.3.4. Quality and quantity of external information.

As the only available English-language instrument of its type, the External Information Questionnaire (EIQ; Gijsbers van Wijk & Kolk, 1996) was chosen to measure the quality and quantity of external information.

2.3.4.1. External information questionnaire (EIQ).

The EIQ was developed by the proponents of the model of symptom recognition outlined above (see section 1.3.5.1.), and is an amalgam of the External Information Scale (in Dutch) (van Vliet, 1992) and a Daily Hassles Questionnaire (Vingerhoets, Jeninga, & Menges, 1987). It contains 18 statements on the amount and diversity of external information in daily life, rated on a five-point Likert scale ranging from 'not at all true' to 'very true'. Ten items are reverse scored and higher scores indicate higher quality and quantity of external information. Example items from the questionnaire are: "today was pretty much the same as other days" (reverse scored) and "I did not have enough time". The total score is the mean of the item scores and there are no predetermined cut-off scores.

2.3.4.2. Psychometric properties of the EIQ.

2.3.4.2.1. Reliability

Reliability has been shown to be sufficient, with internal consistency coefficients of .77 in a sample of college students (Bekker, Croon, & Vermaas, 2002) and .80 in samples of college students and general practice patients (Gijsbers van Wijk & Kolk, 1996). In another study the internal consistency coefficient was .73 in a population of individuals with eating disorders and in a sample from the general population was .67 (Spoor, Bekker, Van Heck, Croon, & Strien, 2005). The test-retest coefficient was found to be .74 in a sample of 173 students and general practice patients (Gijsbers van Wijk & Kolk, 1996).

2.3.4.2.2. *Validity*

The EIQ has face validity; the items in the measure appear to relate to the quality and quantity of external information in individuals' environments. As there are few measures of this type available, concurrent validity was established using correlations with diary measures of number of social roles, hours spent on paid employment and hours spent engaged in an activity ($r = .26$ to $r = .36$, all significant; Gijsbers van Wijk, Huisman, & Kolk, 1999). The EIQ was also found to have discriminant validity; it was independent of personality measures and independent of most measures of attribution of symptoms, although there was a small but significant correlation with negative affectivity (Gijsbers van Wijk & Kolk, 1996).

2.3.5. **Selective attention to the body.**

The instrument chosen to measure selective attention to the body was the Body Awareness Questionnaire (BAQ; Shields, Mallory, & Simon, 1989). The two constructs, selective attention to the body and body awareness, are analogous. A recent review concluded that only this and one other measure were adequately validated measures of body awareness; the other being a subscale of a larger measure (Mehling et al., 2009).

2.3.5.1. *Body Awareness Questionnaire (BAQ)*

The BAQ consists of 18 statements relating to reported awareness of normal bodily processes which are not typically associated with emotion or somatic complaint. Examples of the items are: "I know in advance when I'm getting the flu" and "I don't notice seasonal rhythms and cycles in the way my body functions" (reverse scored). Each item is scored on a seven point Likert scale ranging from '*not at all true about me*' to '*very true about me*'. Items are scored 1-7 except one reverse scored item. The total score is the sum of the items. Higher scores indicate higher body awareness / selective attention to the body and there are no predetermined cut-off scores.

2.3.5.2. Psychometric properties of the BAQ.

2.3.5.2.1. Reliability

Good internal consistency has been demonstrated; alpha coefficients ranged from .77 to .83 in a mixed sample of 800 students and adults (Shields et al., 1989). Test-retest data from a sample of 70 psychology students with a two week interval resulted in an alpha coefficient of .80 (Shields et al., 1989).

2.3.5.2.2. Validity

The BAQ has face validity; the items appear to relate to individuals' awareness of their bodies. Tests of convergent validity demonstrated significant correlations with measures of private body consciousness (range $r = .48$ to $r = .66$) and with measures of private self consciousness (range $r = .20$ to $r = .25$) (Shields et al. 1989). Tests of discriminant validity found that correlations with measures of symptom reporting, neurosis, self-esteem, social desirability, anxiety, and hypochondriasis were, as would be expected, mostly low and non-significant (range $r = -.15$ to $r = .28$; Shields et al. 1989).

2.3.6. Symptom attribution.

The Symptom Interpretation Questionnaire (SIQ; Robbins & Kirmayer, 1991), as the only available measure of its type, was chosen to measure symptom attribution for this study.

2.3.6.1. Symptom Interpretation Questionnaire (SIQ)

The SIQ assesses individuals' preferences for different types of causal explanation for sensations; their attributional style. It contains a list of 13 statements with a possible explanation in each of three domains: somatic, psychological, or normal. The order of presentation of the three domains is varied between questions. An example item is:

“If I am sweating a lot, I would probably think that it is because:

1. I must have a fever or infection,
2. I'm anxious or nervous,
3. the room is too warm, I'm overdressed, or working too hard.”

Two versions of the measure have been used in previous research: the first asks respondents to select all possible explanations for each question, the second, the forced-choice version, asks respondents just to select the reason that best corresponds to their explanation of the condition. The forced choice one was used, as the first version appeared to be confounded by acquiescence bias (Robbins & Kirmayer, 1991). Respondents therefore achieve a total score on each of the three dimensions up to a maximum of 13. Higher scores on each of the three dimensions indicate a stronger preference for that type of causal explanation. There are no predetermined cut-off scores. As the hypotheses (H4 and H7; Section 1.4.1.) related just to psychological attribution, this subscale alone is considered in the analysis. As the subscales are related, however, all are considered in relation to assessing the instrument's psychometric properties.

2.3.6.2. Psychometric properties of the SIQ.

2.3.6.2.1. Reliability

Internal consistencies in a family medicine clinic population were satisfactory (Cronbach's alphas were .82 for the psychological scale, .63 for the somatic scale, and .65 for the normalising scale; Robbins & Kirmayer, 1991). Test-retest correlations (range $r = .52$ to $r = .60$) indicated that the scales assessed enduring attributional styles (Robbins & Kirmayer, 1991).

2.3.6.2.2. Validity

In relation to validity, scores on the psychological attribution scale predicted psychological symptom presentation over the next six months ($\beta = .07$, $p < .05$) (Robbins &

Kirmayer, 1991). The psychological scale has been associated with illness worry, psychological symptoms, psychiatric diagnoses, neuroticism, and psychological self-consciousness (Aronson, Barrett, & Quigley, 2001; Aronson, 2006; Greer, Halgin, & Harvey, 2004; Kessler, Lloyd, Lewis, & Gray, 1999; Robbins & Kirmayer, 1991). However, it has also been associated with poor physical health and hypochondriacal tendencies (Robbins & Kirmayer, 1991), as well as with daily somatic symptoms and hassles severity and intensity (Aronson, 2006).

Scores on the somatic attribution scale predicted somatic symptom presentation over the next six months ($\beta = .30, p = .06$) (Robbins & Kirmayer, 1991). The somatic scale has been associated with somatic symptoms, hypochondriacal tendencies, somatic symptoms of anxiety, and chronic physical illness (Aronson, 2006; Robbins & Kirmayer, 1991). It has found to be independent of depression, anxiety or psychological self-consciousness (Kessler, Lloyd, Lewis, & Gray, 1999; Robbins & Kirmayer, 1991). However, in one study it was also found to be related to neuroticism and not to symptom reporting (Aronson, 2006).

Overall, it appears that the psychological and somatic subscales of the SIQ measure what they purport to measure; they have convergent validity. However, both subscales also appear to be associated with more general tendencies, for example neuroticism, indicating that they may not have such good discriminant validity. As the psychological subscale is the one of interest in the current study, questions in relation to the specificity of its measurement will affect the interpretation of the results (see Section 4.3.3.5.).

2.4. Procedure

This section outlines the procedure for the study, including the rationale for choosing an internet based survey, the process of recruitment, and development of the survey.

2.4.1. Use of internet mediated research.

The use of the internet to conduct psychological research has a number of clear benefits over the use of traditional postal or face-to-face methods. These include the ability to reach difficult to access groups (e.g. Mann & Stewart, 2000), the reduction of embarrassment (e.g. Valaitis, & Sword, 2005), the enhancement of disclosure (e.g. Joinson, 2002), fewer barriers to participation (such as posting or arranging appointments) (e.g. Stewart, Eckermann, & Zhou, 1998), and reduced use of researcher's time per participant (Llieva, Baron, & Healey, 2002). This study used the internet for two main reasons. The first was that this study required a relatively large sample of males, who are more difficult to recruit than females using traditional methods than via the internet (e.g. Holden, Rosenberg, Barker, Tuhrim, & Brenner, 1993; Smith & Leigh, 1997). The second was that the study aimed to measure symptom perception and the enhancement of disclosure in internet situations was expected to reduce the potential discrepancy between perceived and reported depressive symptoms, increasing the validity of the study.

However, use of the internet may have impacted on the eventual sample of the study. For example, internet use is associated with age and household internet access with education (ONS, 2006). These factors may influence the generalisability of the sample (see the Discussion for further consideration of these issues, Sections 4.3.1.2. and 4.3.4.).

2.4.2. Recruitment.

The recruitment strategy was to target employers in East Anglia and ask them to contact their male staff to make them aware of the study. With some basic details about the study employees then made a personal decision whether or not to take part in the study. These two parts of the recruitment process are outlined in detail below.

2.4.2.1. Recruitment of employers.

Medium to large size employers (roughly 40 employees upwards) across East Anglia were targeted. This was to maximise the number of participants per recruited employer, and also to increase the likelihood that there was some infrastructure through which employees could be easily targeted via electronic means. Employers were selected using the researcher's local knowledge, local chambers of commerce member listings, and other available electronic listings of local employers (such as those provided by local councils).

Before contacting employers, the researcher examined their website, looking for signs of an overt commitment to employees, such as membership of the 'investor in people' scheme or a statement under the recruitment section. The researcher also looked at the website to determine whether the employer had an internal communications department. The researcher then telephoned the employer and asked to speak to somebody in Internal Communications, if there was evidence of such a department on the website, or somebody in Human Resources. The researcher then gave a short introduction, outlining his position at the University of East Anglia, a brief synopsis of the study, and the purpose of the contact (see Appendix C for a typical introductory conversation with employers). The researcher also attempted to reference any organisational commitment in relation to the wellbeing of the staff of the organisation, where this had been found. The aim of this contact was to determine the best person to contact about the study, speak to them if possible, and then send a follow up email containing further information about the study (see Appendix D for an outline of the contents of this email). Following this, the researcher maintained contact with the employers through follow up emails, telephone calls, telephone conferences, or meetings in person, according to the wishes of the employer, until the employer either agreed or declined to take part in the study. Contact with employers ranged from a single telephone call, to around 10 attempts at contact before resolution or cessation of effort by the researcher.

Employers were asked to make their staff aware of the study through existing means of communication, such as an intranet system, a newsletter, or a group email system. Employers were provided with suggested content to put in an email or on their intranet pages (Appendix E). This was designed to capture as many men as possible and not to highlight the focus on depression as the aim was to recruit both depressed and non-depressed men. The employers, however, had eventual control over their own communications and were free to revise the suggested content as they saw fit. The extent of the commitment asked from organisations consisted only of planning how to contact their staff and then providing staff with basic details about the study and a link to the survey. Employers were not provided with any information about their employees' participation in the survey; they were, however, provided with a summary of the eventual results of the study (Appendix I).

2.4.2.2. Recruitment of employees.

Employees found out about the study through either an email from their employer or a message on their intranet system. In both cases, they were provided with a short message and a link to the study website. If they chose to follow the link, potential participants were provided with further information about the study (for more detail see Section 2.4.3.1.) to enable them to decide whether they, personally, would like to take part in the study. Participation in the study was entirely voluntary, and no information, beyond the final results of the study, was provided to organisations about their employees' participation. The questionnaire battery took about 15 minutes to complete. Completion of this battery marked the completion of participants' involvement with the study. A summary of the results of the study was eventually provided on the website on which participants accessed the questionnaires (Appendix I).

This recruitment strategy was chosen to access as diverse a population of men as possible; individuals without access to the internet at home commonly access it at work

(ONS, 2006). Nevertheless, this recruitment strategy did omit certain groups of men, for example men who were unemployed, those who were self-employed or who worked for smaller employers, and those who did not use the internet at work. This had a potential impact on the generalisability of the results (see Section 4.3.1.).

2.4.2.3. Incentive.

In order to assist recruitment, participants were offered an incentive to take part. The winner was drawn at random from those choosing to enter the competition after completing the online questionnaires. Participants could choose to complete the questionnaires without entering the prize draw. The incentive was mentioned to employers when discussing their potential involvement in the study. It was also used to encourage potential participants to read the information provided by their employer, and was the focus of the front page of the study (see Appendix F).

The incentive consisted of entry into a prize draw to win a 'Red Letter Day' voucher worth £100, which entitled the winner to choose from over 100 days out including driving experiences, light aircraft flying, and wine tasting. This choice of incentive was designed to appeal to as diverse an audience as possible. Many people have heard of Red Letter Days, and, due to their experiential nature, they do not have the problem of more materialistic prizes in that people may already own the item. In addition, many of the Red Letter Day experiences are likely to appeal to men, for example driving or flying experiences. Four experiences that were chosen as examples to illustrate the prize were driving a Lamborghini, flying a light aircraft, whiskey tasting for two, and lunch and the London eye for two. These were chosen so as to appeal to as diverse an audience as possible. Nevertheless, as with any incentive, the choice of incentive is likely to appeal to particular groups of people and is likely to have had an influence on the sample. Again, this may influence the generalisability of the results and the potential impact of this is explored in the Discussion (Section 4.3.1.3.).

2.4.3. Survey.

The study was conducted online through a website called Survey Monkey, with which the University had a subscription. Survey Monkey is an internet-based tool for creating and managing internet surveys. It has a simple user interface enabling researchers to construct surveys with ease and the end product seen by participants is simple and informal. It allows the monitoring of participation in real time and export of results to Microsoft Excel or in tab delimited form. The survey was designed and managed in conjunction with the University of East Anglia Survey Office.

The survey was constructed using a series of introductory pages, followed by the measures to be completed, then the prize draw pages and finally a thank you page.

A print out of the survey can be seen in Appendix F.

2.4.3.1. Introductory pages.

As noted above (Section 2.4.1.3.), the first page was a picture page designed to attract potential participants to continue reading. It consisted of four pictures of the types of 'Red Letter Day' activities that could be won: these were pictures from the Red Letter Day website to illustrate each of the four experiences used as examples in the text. It also contained a short paragraph which introduced the study and associated prize draw and a button to click for further information.

The next two pages consisted of the Information for Participants documentation, as approved by the Faculty of Health Ethics Committee (Appendix G). This information included contact details for the researchers should potential participants have any queries. The second of these two pages asked whether the respondent was male and whether they had read the documentation and agreed to take part in the study. Participants who answered in the affirmative were directed to the first page of questions. Participants answering that they did

not wish to take part in the study were directed straight to the thank you page at the end of the survey.

2.4.3.2. Questionnaires.

The next six pages consisted of the questionnaires to be completed. Participants were not able to proceed to the next page until all questions had been answered. They could, of course, close the browser window and cease completion at any time.

The first page consisted of the questions relating to demographic information. These were, in order: age, relationship status, highest qualification, employment status, household income bracket, and ethnic background (Appendix B). Each question had to be answered in order for the participant to continue, but for each, there was an option to respond 'rather not say'.

The next five pages consisted of the questionnaires as outlined above, one on each page, in the following order: BAQ, CES-D, EIQ, MRNI, and SIQ (Appendix B). Again, each of these questions had to be answered before the respondent could proceed to the next page.

2.4.3.3. Prize Draw.

The page following the questionnaires thanked participants for completing the questionnaires and outlined the terms and conditions for the prize draw. Participants were asked to respond in one of two ways. Either they could decline to take part in the prize draw and proceed to the thank you page, or they could confirm that they had read and understood the terms and conditions for the prize draw and provide their name, address, and email address and then proceed to the thank you page (Appendix F). The thank you page thanked participants again for taking part and directed them to their GP in the first instance should they have any difficulties or problems that were brought to light by their participation. It also provided some contact details for useful organisations, including the Samaritans for telephone contact and the Royal College of Psychiatrists for useful written information and pamphlets.

2.5. Ethical Considerations

2.5.1. Ethical approval.

Ethical approval for the study was sought through the University of East Anglia Faculty of Health Ethics Committee. The papers were sent to the meeting of 30th July 2009. A number of minor amendments were suggested by the ethics committee, which were detailed in a letter of 11th August 2009. A response was sent to the committee by the researcher on the same day, 11th August 2009. Final ethical approval was received on 4th September 2009. Copies of all letters relating to the process of ethical approval are shown in Appendix H.

2.5.2. Informed consent.

Before participants were able to participate in the study, they were provided with detailed information about the study. This information sheet was approved by the Faculty of Health Ethics Committee and was presented at the beginning of the online survey (see Section 2.4.3.). Participants were asked to tick a box confirming that they had read and understood the study information and that they consented to take part in the study. Only after they had ticked this box did the website allow them to proceed to filling in the questionnaires online. These procedures were designed to ensure that participants were aware of their commitment before completing the survey. These procedures were the most robust possible, given that there was no contact between researcher and participant unless initiated by participants themselves.

2.5.3. Confidentiality.

There was no direct contact between participants and researchers (unless initiated by participants) and participants were not asked to provide any personal information whatsoever as a part of the study. If participants wished to take part in the prize draw, they were asked to provide their name, address, and email address. Once the data had been downloaded from

Survey Monkey, these details were separated from the study data and no link was retained between the two data sets. The two data sets were stored securely. Data relating to the prize draw were destroyed once the prize draw had been completed, with the exception of the winner, whose information was kept for two months in order to demonstrate the legitimacy of the prize draw to anybody enquiring after such information.

2.5.4. Security of data.

The survey provider, Survey Monkey, is a secure website which operates a secure password-protected service. The data were managed in accordance with Data protection legislation and only the University Survey Office and the researcher had access to download the data. The data were stored securely on the researcher's computer, and erased 18 months after completion of the study.

2.5.5. Debriefing.

In anticipation of any cases where completion of the questionnaire may have led participants to distress, recognition of depression, or some other quest for further knowledge, a debriefing page was provided at the end of the survey. It suggested that concerned participants contact their GP or NHS Direct in the first instance. It also provided contact numbers for the Samaritans, for telephone support, and the Royal College of Psychiatrists for written information and useful pamphlets.

2.6. Data Management

2.6.1. Management.

At the end of the recruitment phase of the study, data were downloaded from Survey Monkey into a Microsoft Excel spreadsheet and the study data and personal data were separated as detailed above (see Section 2.5.3.). The study data were then screened and prepared as detailed in the Results section below (see Section 3.1.).

2.6.2. Statistical analysis.

The statistical model tested derives from Baron and Kenny (1986) and is outlined in Figure 2. The aim of the study was to assess the degree to which any association found between higher masculinity (MRNI-R) and fewer self-reported depressive symptoms (CES-D) was mediated by the factors of the model of symptom experience (EIQ, BAQ and SIQ). Thus, the first association to be tested was the correlation between depressive symptoms (CES-D) and masculinity (MRNI-R). Correlations were also conducted to examine the association between masculinity and the factors of the model (H2, H3, and H4), and between the factors of the model and depressive symptom reporting (H5, H6, and H7). If there was a significant association between masculinity and depression (H1) the degree to which this association was mediated by the other associations (H2 to H7) would be tested using multiple regression (H8); CES-D was the dependent variable, and the other four variables were independent variables. All data were analysed using SPSS for windows, version 16.0.

3. Results

This section will outline the results of the study. The section is organised into seven sections, covering data screening and preparation, response rates, demographic data, internal consistency of measures, data distribution and transformation, descriptive data, and hypothesis testing.

3.1. Data screening and preparation

The study data set was screened in Microsoft Excel and all records where participants had ceased completion of the survey prior to providing consent to take part were removed; this amounted to 23 records (7% of all those beginning the survey). Six test records completed by the researcher and the researcher's supervisor prior to the survey going live were also removed. All data were transformed into numeric data, all text string data being removed; for example the string '*Strongly agree*' was transformed to the number '7' on the MRNI-R, which is the number assigned by the measure for the purposes of calculation. All missing data were coded as the number '999' to ensure differentiation between missing data and blank cells for some other reason. Whilst the survey had been designed to avoid missing data during completion of the questionnaires, on the longest measure (MRNI-R) it appeared that 11 participants had clicked the same response to all 53 items on the questionnaire to enable them to proceed to the next page. These responses were coded as missing data. This did not appear to have occurred on any of the other measures, which were all shorter. Finally, the column labels were formatted and checked to ensure a clean import. Data were then imported into SPSS Version 16. Data and data labels were checked and text strings were associated with integers where appropriate (e.g. for age categories and household income bracket). This data set was saved as the 'original' data set.

After this, a new 'compiled' data set was created in which total scores were calculated for each measure taking into account the scoring instructions (for example reverse scoring of items). This procedure was checked and rerun to ensure the accuracy of this process. This 'compiled data set' was used for all analyses.

3.2. Response Rates

Response rates for the study are divided into employer response rates and participant response rates.

3.2.1. Employer response rates.

Forty-eight employers were approached during the period between December 2009 and March 2010. A total of six employers agreed to participate in the study (13% of those approached). Of those not participating in the study, eleven employers (23%) said that they did not wish to participate. The remaining 31 employers (64%) did not return messages or contacts by the researcher, in one case even after agreeing to participate.

3.2.2. Participant response rates.

Out of the six employers agreeing to participate, a total of 348 individuals started the survey, 325 (93%) of whom consented to participate. This sample of 325 participants constituted the study sample. Fourteen (4%) participants provided no further information after consenting to participate, 71 (22%) participants provided partial information, and 240 (74%) participants completed all questionnaires. There is no way to determine the overall numbers of individuals who viewed the emails or posts on intranet servers, and thus no way to determine the proportion of responders to non-responders. Participants were not encouraged to forward information about the study to other contacts, so the majority of participants were expected to be employed by the employers recruited to the study. However, that some participants reported being unemployed or homemakers suggests that the survey

was forwarded by some participants to people outside of the six employers agreeing to participate.

Analyses were conducted using the entire study sample. Each analysis was conducted with all participants providing data necessary for the analysis. To illustrate, the association between demographic data and depression was conducted using data from 273 participants providing these data, whereas the association between masculinity and depression was conducted using data from 240 participants who provided both masculinity and depression data.

3.3. Demographic Data

3.3.1. Employer demographics.

Employer demographics are shown in Table 1, arranged in order of approximate number of employees. As the table illustrates, there was variety in terms of sector, industry, and size. However, the largest employer by a substantial margin was the county council and it is therefore likely that a greater number of participants were recruited from this employer than the others. As participants were not asked to provide information about their employer, accurate data is unavailable. However, a simple probability calculation suggests that, given equal likelihood of participation across employers, the proportion of the sample arising from the county council was 92%, or 299 of the study sample of 325.

Table 1: Demographics of employers

Employer	Sector	Industry	Approx Number of Employees	Method of Staff Recruitment
1	Public	County Council	12,000	Intranet Post
2	Third/Voluntary	Housing	300	Intranet Post
3	Private	Engineering	260	Intranet Post
4	NDPB*	Regional Development	230	Intranet Post
5	Private	Financial (Insurance)	160	Circular Email
6	Private	Electronics Retail	40	Circular Email

*NDPB: Non-Departmental Public Body

3.3.2. Participant demographics.

Table 2 presents the demographic characteristics of the study sample. Participants were requested to select an age bracket rather than enter their exact age, so the mean age of the study sample was estimated at 41 years ($SD = 12$). The majority of the sample (89%) was aged between 20 and 59 and was in full time work (86%; just 2% was not working). The sample was well educated, almost half (48%) had at least a degree level qualification. The sample also had high household incomes. Participants were requested to select an income bracket rather than enter their exact income, so the mean household income was estimated at around £41,000; 62% of the sample had a household income of greater than £30,000. Around half the participants were married or in a civil partnership (51%) and the majority identified as White British (88%).

Table 2: Demographic characteristics of the study sample

EMPLOYMENT	N	Percentage of sample
Full Time Work	279	85.8
Part Time Work	24	7.4
Homemaker	1	.3
Retired	1	.3
Student	1	.3
Unemployed	4	1.2
Missing data	15	4.6
HIGHEST QUALIFICATION		
Post-graduate level	50	15.4
Degree or graduate level	107	32.9
Vocational level	85	26.2
A-Level	36	11.1
GCSE Level	27	8.3
No formal qualifications	3	.9
Missing Data	17	5.2
HOUSEHOLD INCOME		
Under £10,000	4	1.2
£10,000-£14,999	8	2.5
£15,000-£19,999	32	9.8
£20,000-£24,999	32	9.8
£25,000-£29,999	27	8.3
£30,000-£39,999	67	20.6
£40,000-£49,999	56	17.2
£50,000-£74,999	61	18.8
£75,000-£99,999	13	4.0
Over £100,000	5	1.5
Missing Data	20	6.1

Table 2 (contd): Demographic characteristics of the study sample

RELATIONSHIP STATUS	N	Percentage of sample
Single	57	17.5
Boyfriend / Girlfriend	30	9.2
Cohabiting	46	14.2
Married / Civil Partnership	165	50.8
Divorced	11	3.4
Widowed	1	0.3
Missing Data	14	14.6
ETHNICITY		
White British	287	88.3
White Irish	4	1.2
Any other White background	7	2.2
Black or Black British Caribbean	1	.3
Indian	1	.3
Pakistani	1	.3
Mixed White and Black Caribbean	2	.6
Mixed White and Asian	1	.3
Any other mixed background	3	.9
Missing Data	18	5.5

3.4. Internal Consistency of Measures

The internal consistency of each measure used in this study was calculated using Cronbach's alphas; results are presented in Table 3. The BAQ, CES-D and MRNI-R all had satisfactory internal consistency, with alphas ranging from .85 to .97. The EIQ had an internal consistency of .66 which is just lower than the usual cut-off of .70 (Nunnally, 1978). This suggests that the items of the EIQ may measure more than one construct. As it is close to the cut-off, data from the measure will be explored in the results, but there is further exploration

of the possible difficulties with the instrument in the Discussion (Section 4.3.3.3.). The SIQ Psychological, the subscale of interest in the current study had an alpha of .75, which is satisfactory, and the SIQ normal subscale also had a satisfactory alpha level of .74. The SIQ somatic, however, had a very low alpha level of .53, which suggests either that the included items are not measuring the same construct, or that there are very few items comprising this subscale (i.e. that few responses indicate a somatic attribution). In this case the latter explanation is more likely given the mean score on this subscale (see Section 3.6.). As the psychological subscale is of interest in this study, this low alpha level for this reason is not of concern.

Table 3: Internal consistency of measures used in this study

Measure	Cronbach's Alpha	N
BAQ Total	.85	284
CES-D Total	.94	273
EIQ Total	.66	270
MRNI Total	.97	255
SIQ Psychological	.75	240
SIQ Somatic	.53	240
SIQ Normal	.74	240

3.5. Data Distribution and Transformation

The distribution and transformation, where applicable, of each variable is described in turn below.

3.5.1. Depression scores.

Scores on the CES-D were positively skewed, being clustered at the lower end of the distribution, and were leptokurtic, having greater variation on the vertical than the horizontal axis. Various transformations were tested to attempt to approximate a normal distribution, the best, as ascertained by visual inspection of histograms, being the fourth root of the scores plus a constant to make them non-zero. However, even after this transformation the distribution remained significantly different from normal, *Shapiro-Wilk*₍₂₇₃₎ = .98, $p = .002$. In the light of these considerations, scores were explored in relation to other variables primarily via non-parametric analyses. For reasons of comparison, some analyses were conducted via dichotomising the scores (depressed and non-depressed) using the commonly accepted cut-off score of 16 to indicate probable diagnostic depression (Radloff, 1977).

3.5.2. Masculinity scores.

Scores on the MRNI-R were not skewed but were platykurtic. Any transformation designed to reduce the kurtosis of the distribution introduced skewness; there was no way to transform the data to a normal distribution. As a result, masculinity scores were explored via non-parametric analyses.

3.5.3. External information scores.

Scores on the EIQ were negatively skewed. The data were reflected and then transformed using the natural logarithm. Data were then reflected back so that higher values continued to represent higher scores on the EIQ. This resulted in a normal distribution, with negligible skewness and kurtosis, *Shapiro-Wilk*₍₂₇₀₎ = .994, $p = .408$.

3.5.4. Selective attention to body scores.

Scores on the BAQ were normally distributed and therefore no transformation was necessary.

3.5.5. Symptom attribution scores.

Scores on the three subscales of the SIQ were skewed; those on the psychological and somatic subscales were positively skewed and those on the normal subscale were negatively skewed. There was no way to transform the subscale of interest in the current study, the psychological subscale, to a normal distribution. These data were again explored using non-parametric analyses.

3.5.6. Summary

Only one of the five variables of the study produced a normal distribution and one further variable could be transformed to a normal distribution. The two main variables, depression and masculinity were non-normal. The majority of the analyses conducted to test the hypotheses were therefore conducted using non-parametric analyses, specifically Spearman's correlations. Where other statistical tests were used these are detailed in the relevant sections.

3.6. Descriptive Data

Table 4 presents descriptive data for each measure used in the study. The numbers of people completing these measures are provided in the final column, the variation reflects the attrition of the sample as the survey continued (see Section 3.2.2.). Further exploration of each measure in relation to demographic data is outlined below.

Table 4: Descriptive data for measures used in the study

MEASURE	Mean	SD	Range	N
CES-D	13.6	11.6	0 – 54	273
MRNI-R	2.7	.90	1.1 – 5.1	240
EIQ	3.12	.47	1.6 – 4.2	270
BAQ	71.6	17.2	27 – 115	284
SIQ				
Psychological	2.9	2.4	0 – 13	240
Somatic	1.9	1.7	1 – 11	240
Normative	8.1	2.8	1 – 13	240

3.6.1. Depression scores.

The mean depression score, as measured by the CES-D, was 13.6. Almost one third (31%) of respondents scored 16 or above, this being the cut-off traditionally used to indicate probable depression at diagnostic threshold (Radloff, 1977). In relation to previous research, these depression levels are unusually high; in the initial validation study conducted in the US, which was presented by ethnicity, the white subsample had a mean of 8.9 on the CES-D, 17.8% scoring 16 or above (Radloff, 1977). A similar comparison can be drawn to a more recent UK sample of civil servants where 15.0% scored 16 or more on the CES-D (Akbaraly et al., 2009). Finally, the depression scores in this sample are high in comparison to male samples: males in a community sample in Los Angeles County, US had a mean CES-D score of 7.6 with 12.9% reaching the threshold of 16 or more (Frerichs, Aneshensel, & Clark, 1981), and in another US community sample the mean was 7.90 (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). It seems that the population of the current study were substantially more depressed than is usual in a non-clinical population.

There were no significant differences in depression scores in terms of employment status, highest qualification, or ethnicity. Previous research found that people who were unemployed and had few qualifications tended to score high on the CES-D (e.g. Akbaraly et al., 2009; Frerichs, Aneshensel, & Clark, 1981), and that these factors mediated differences between ethnic groups (e.g. Frerichs, Aneshensel, & Clark, 1981). The relative homogeneity of the sample with regards to these variables may explain the lack of findings in relation to these variables in the current study.

In the current study younger age groups were significantly more likely to report depressive symptoms, $H(7)=14.2$, $p = 0.047$. This is consistent with previous studies finding that, within working age samples, younger people are more likely to report symptoms of depression on the CES-D (e.g. Akbaraly et al., 2009; Frerichs, Aneshensel, & Clark, 1981).

Single, divorced, and widowed men had significantly higher depression scores than those in relationships, Mann Whitney U: $z=-3.35$, $p = .001$, which is consistent with previous research (e.g. Akbaraly et al., 2009; Dershem, Patsiorkovski, & O'Brien, 1996; Radloff, 1977).

Finally, men with lower household incomes (under £30,000) had significantly higher depression scores than those with higher household incomes, Mann Whitney U: $z=-2.37$, $p = .018$, which is again consistent with previous research (e.g. Akbaraly et al., 2009; Radloff, 1977).

Overall, the majority of the associations between depression and demographic variables found in the current study were consistent with previous research. However, depression scores in the current study appeared substantially higher than would be expected in non-clinical populations based on previous research.

3.6.2. Masculinity scores.

The MRNI-R has seven subscales, a structure that was confirmed by a principle-axis factor analysis in a study of college students (Levant, Rankin, Williams, Hasan, & Smalley, 2010). In order to explore these subscales in the sample of this study, a principle axis analysis of the scores on the individual items was carried out, conducted in the same way as for the validation of the measure. Just one factor emerged, which accounted for 62% of the variance. This suggested that, contrary to previous research, in this sample all subscales measured a single construct. Consequently, the subscales were not considered in further analyses.

Total scores on the MRNI-R range between one and seven; the mean in the current study was 2.7. In samples of American college men, total scores on the MRNI-R averaged 3.7 (Levant et al., 2007), and 3.6 (Levant, Wimer, Williams, Smalley, & Noronha, 2009). Thus, the mean score on the MRNI-R in the current study was substantially lower than the mean of previous samples. Had the distribution of the MRNI-R total scores in this study been normal, it would have been possible to statistically compare the distributions of this study to those of previous studies using t-tests (using each sample's size, mean, and standard deviation). As the distribution of scores in the current study (as illustrated in Figure 3) was non-normal, this was not possible. Estimates based on the differences of the means and the spread of the two distributions suggests that the differences between the distributions are likely to be significant.

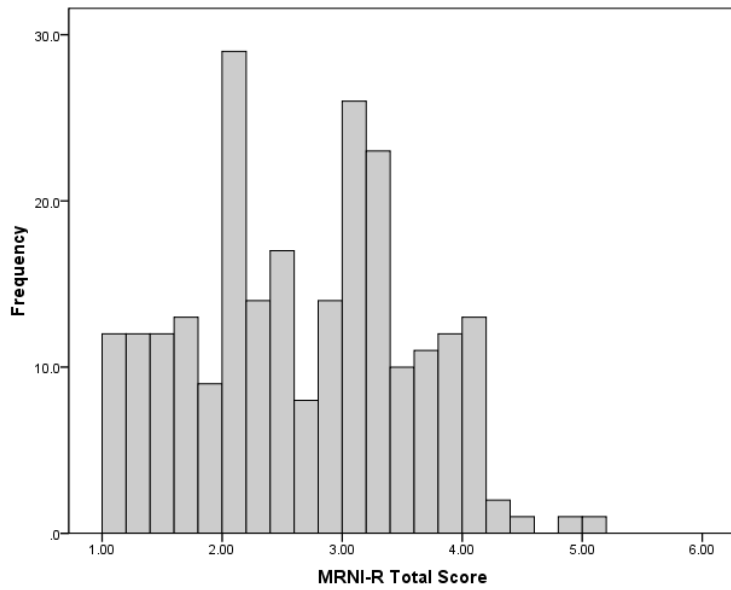


Figure 3: Histogram illustrating the distribution of total scores on the MRNI-R

Further analysis of the responses to the MRNI-R was conducted by collapsing across question and respondent: 240 participants completed all 53 items of the MRNI-R providing a total of 12720 responses to the items of the MRNI-R ($240 \times 53 = 12720$). A bar graph illustrating these responses is shown in Figure 4. This graph presents a picture of general disagreement with the statements of the measure; over one third (37%) were rated 1, or ‘strongly disagree’. No previous research has reported MRNI-R scores in this way, so there is little with which to compare this data.

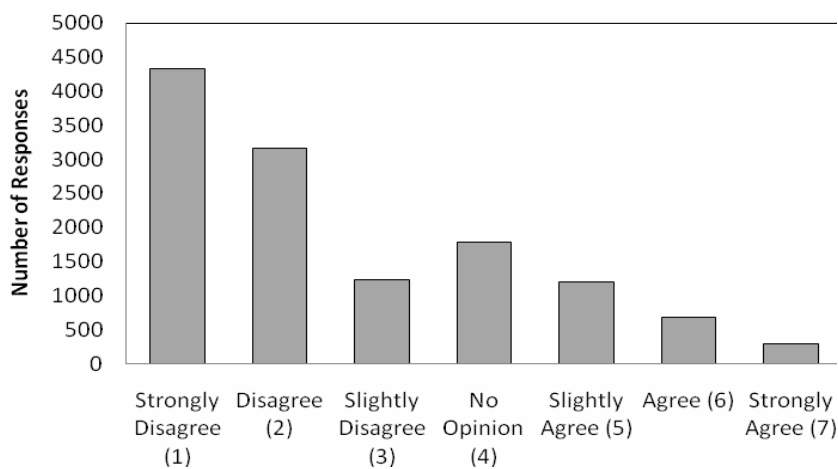


Figure 4: Bar chart of MRNI-R responses collapsed across question and participant

There were no significant differences in masculinity scores across age groups, relationship status, work status, household income level, or ethnicity. Males who had more qualifications, however, were found to score lower on the MRNI-R than males with fewer qualifications, $H(5)=17.31$, $p = .004$, indicating that they endorsed traditional masculinity ideology to a lesser extent. These findings are broadly consistent with other studies where masculinity scores were found to be independent of age, socio-economic status, income, and relationship status; having fewer qualifications, however, was associated with higher masculinity scores (e.g. Levant & Richmond, 2007; Mahalik, Burns, & Syzdek, 2007). In one study, there were significant differences between ethnic groups (Levant & Richmond, 2007); the lack of a significant relationship between masculinity and ethnic group in this study may be due to the relative homogeneity of this study's sample in relation to ethnicity.

Overall, scores on the MRNI-R are lower than would be expected given previous research and appear to have a different factor structure. The associations between masculinity and demographic variables, however, are broadly consistent with previous literature.

3.6.3. External information scores.

The mean score on the EIQ was 3.12. Previous research using this measure, conducted in samples of students and patients in the Netherlands, produced means of between 3.5 and 3.7 (Gijsbers van Wijk, Huisman, & Kolk, 1999; Gijsbers van Wijk & Kolk, 1996; Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003). Two of these studies reported means for the male subsample, which were 3.5 and 3.7 respectively (Gijsbers van Wijk & Kolk, 1996; Gijsbers van Wijk, Huisman, & Kolk, 1999). Whilst the mean of the current study is lower than that of previous research, this measure would be expected to be sensitive to differences in sample population (i.e. students, patients, and working age adults recruited via employers).

There were no significant differences in EIQ scores in terms of highest qualification, employment status, or ethnicity. EIQ scores were significantly higher with increasing age, $F(7,262) = 2.40, p = .021$, and significantly higher with increasing household income, $F(9,255) = 3.02, p = .002$. Scores were also significantly associated with relationship status, $F(5,264) = 3.85, p = .002$; those in relationships (particularly those who were married or in civil partnerships) scored higher than those who were single or divorced.

Only one study was found that reported demographic associations with EIQ scores. This was conducted in a sample of patients of working age (68% employed) and found that younger age was associated with higher EIQ scores, as was higher socio-economic status (Kolk, Hanewald, Schagen, & Gijsbers van Wijk, 2003). The latter finding parallels that of the current study, but the former is inconsistent with the results of this study.

Overall, the relative lack of previous research using this measure makes comparison with previous samples difficult. Nevertheless, it does appear that scores on the EIQ were lower than in previous samples.

3.6.4. Selective attention to the body scores.

The mean score on the BAQ in the current study was 71.6. This is substantially lower than has been the case in previous research: mean scores in one study for male students and a convenience sample of male adults were 99.8 and 97.6 respectively (Shields, Mallory, & Simon, 1989) and the mean score of male students in another study was 82.3 (Shields & Simon, 1991).

There were no significant differences in BAQ scores by age, relationship status, employment status, household income or ethnicity. There was a significant difference in BAQ scores in terms of highest qualification, $F(5,275) = 2.27, p = .048$, however, this difference was no longer significant after excluding three participants (approximately 1% of the 284 participants providing BAQ data) who had no formal qualifications (all of whom had

low BAQ scores). These findings are consistent with previous research which found that BAQ scores were independent of age, ethnicity, socio-economic status, and education level (Barsky, Goodson, Lane, & Cleary, 1988; Shields, Mallory, & Simon, 1989).

3.6.5. Symptom attribution scores.

The SIQ has no total score, just three subscale scores: psychological, somatic, and normal. Mean scores on these three subscales were consistent with previous literature (e.g. Robbins & Kirmayer, 1991) with higher scores on the normal than the other two subscales. Given the forced-choice nature of the scale, correlations between the subscales would be expected: the normal attribution score was significantly negatively correlated with both the psychological, *Spearman's Rho* = .78, $p < .01$, and the somatic attribution scores, *Spearman's Rho* = -.54, $p < .01$. Somatic and psychological attribution scores were unrelated, *Spearman's Rho* = -.013, $p = .84$. The subscale of interest to this study is the psychological subscale and this subscale alone is considered in the results below.

There were no significant differences in psychological attribution scores in relation to age, relationship status, highest qualification, employment status, or ethnicity. There was a significant difference in terms of household income, $H(9) = 24.02$, $p = .004$, those on higher incomes less prone to psychological attribution. This is broadly consistent with previous research, which found that psychological attribution was independent of age, education, family income, and relationship status (Kirmayer & Robbins, 1996; Robbins & Kirmayer, 1991).

3.7. Research Question and Hypotheses

Given the non-normal nature of the bulk of the variables, the majority of the analyses conducted to test the hypotheses were non-parametric in nature. Table 5 presents correlation coefficients calculated using Spearman's rho. These correlational analyses were supported by

other analyses where appropriate as detailed in the sections below. An illustration of these findings in relation to the hypotheses is provided at the end of this section in Figure 6.

Table 5: Bivariate correlation matrix presenting Spearman's rho coefficients

Measure	CES-D	MRNI-R	EIQ	BAQ	SIQ Psych.
CES-D	--	.072	-.310**	.248**	.392**
MRNI-R		--	-.142*	.129*	-.042
EIQ			--	-.125*	-.058
BAQ				--	.144*
SIQ Psych.					--

Note: * significant at $p < .05$ (two-tailed) ** significant at $p < .01$ (two-tailed).

3.7.1. Hypothesis one.

Hypothesis one predicted that masculinity scores would be inversely associated with depression scores. The correlational analysis (Table 5) using Spearman's correlation coefficient did not reveal a significant correlation between the two variables, $r_{(238)} = .072$, $p = .265$. This finding is contrary to hypothesis one (H1). To substantiate this finding, a linear regression analysis was also conducted, which requires not that the distributions of the variables themselves are normal, but that the residuals are normally distributed. Inputting CES-D total score as the dependent variable and MRNI-R Total as the independent variable resulted in a skewed distribution of residuals; hence the assumptions of the test were not met. After base 10 log transformation of both variables, the distribution of the residuals met the criteria of the test (i.e. they approximated a normal distribution). Again, contrary to hypothesis one, no association was found between masculinity and depression scores, $r^2_{(1)} = .004$, $p = .31$. A visual representation of this finding is presented in the scatterplot of Figure 5.

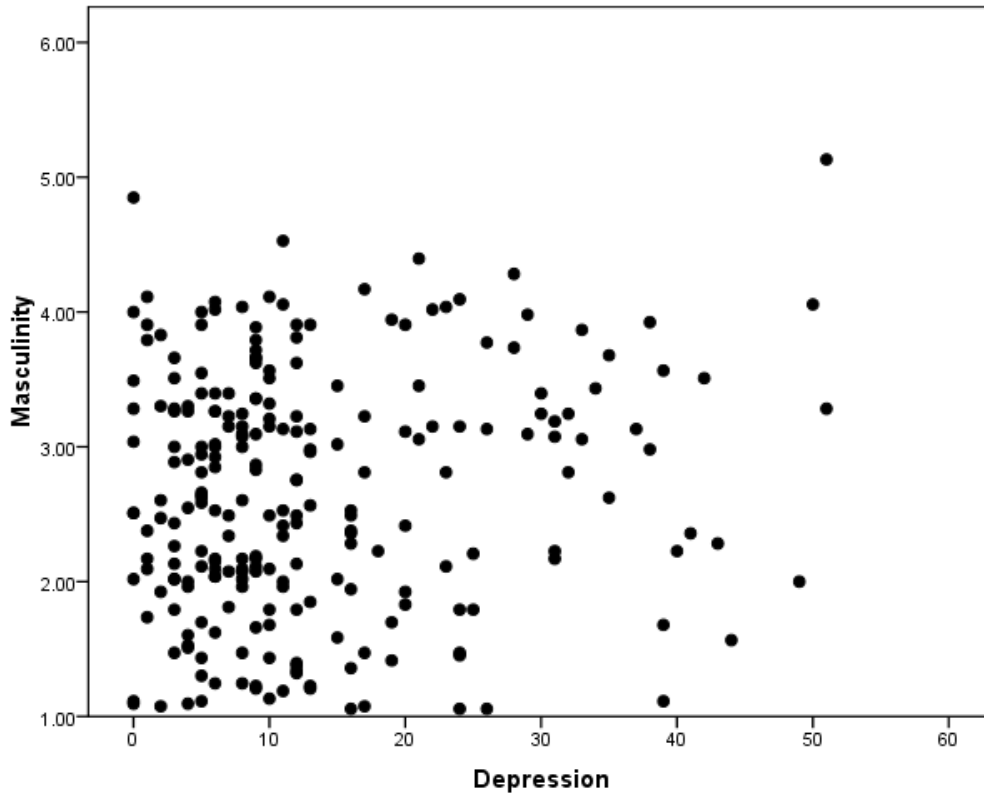


Figure 5: Scatterplot of depression and masculinity scores

3.7.2. Hypotheses two to four

In order to test hypotheses two to four; that higher masculinity would be associated with increased external information (H2), reduced selective attention to the body (H3), and reduced tendency to psychological attribution (H4), correlational analyses were conducted between the MRNI-R, the EIQ, the BAQ, and the SIQ Psychological. These correlations are presented in the correlation matrix of Table 5. Higher masculinity scores were found to be significantly associated with reduced external information, $r_{(238)} = -.142$, $p = .028$ and increased selective attention to the body, $r_{(238)} = .129$, $p = .046$. These findings are contrary to H2 and H3 respectively. No association was found between masculinity and psychological symptom attribution, $r_{(234)} = -.042$, $p = .52$, thus there was no support for H4.

3.7.3. Hypotheses five to seven.

Hypotheses five to seven, that increased external information (H5), reduced selective attention to the body (H6), and reduced propensity to psychological attribution (H7) would all be associated with fewer reported depressive symptoms were tested using Spearman's correlations as presented in Table 5. All three hypotheses were supported by the data: increased external information, $r_{(268)} = -.310$, $p < .0005$, reduced selective attention to the body, $r_{(271)} = .248$, $p < .0005$, and reduced propensity to psychological attribution, $r_{(249)} = .392$, $p < .0005$, were all associated with fewer reported depressive symptoms.

3.7.4. Hypothesis eight.

In the absence of an association between masculinity and depressive symptoms (H1) it was not possible to test the mediating power of the factors of the model in explaining this association. Nevertheless, it was possible to examine the variance in depression scores explained by the factors of the model, using linear regression. In the analysis, CES-D Total score was the dependent variable; EIQ Total, BAQ Total, and SIQ Psychological scores being inputted as the independent variables. The residuals were normally distributed indicating that the assumptions of the linear regression model had been met. The results of the analysis are presented in Table 6. Each of the three independent variables added significant predictive power to the model and together they explained around 38% of the variance in depression scores.

Table 6: Linear regression model showing predictors of depression scores

MEASURE	B	SE b	β
Constant	26.19	4.88	
EIQ	-.46	.07	-.34**
BAQ	.10	.04	.15*
SIQ Psychological	2.03	.25	.42**

$R^2 = .384$, * $p < .01$, ** $p < .001$

3.7.5. Summary of results relating to hypotheses.

No relationship was found between masculinity and depressive symptoms, contrary to hypothesis (H1). Masculinity was associated with reduced external information (contrary to H2), increased selective attention to the body (contrary to H3), and not associated with tendency to psychological attribution (contrary to H4). The factors of the model of symptom were associated with depressive symptoms in the hypothesised directions (H5, H6, and H7) and together accounted for 38% of the variance in depressive symptom scores. Given a lack of association between masculinity and depression, it was not possible to test the mediation of the factors of the model in relation to this association (H8). These findings are illustrated in Figure 6.

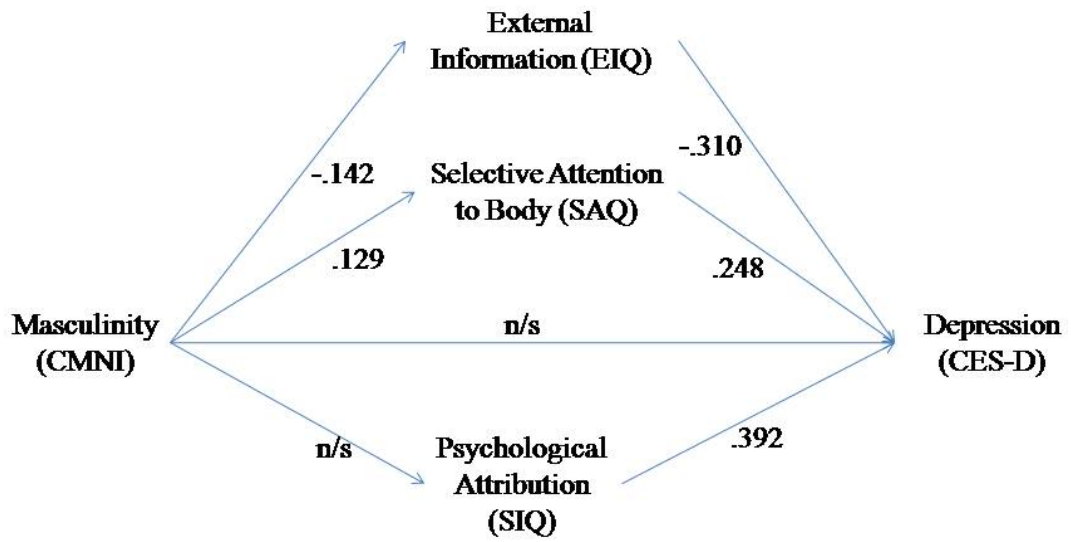


Figure 6: Illustration of results showing significant Spearman's correlations.

4. Discussion

This study aimed to examine the impact of masculinity on the perception of depressive symptoms using a model of symptom perception (Gijsbers van Wijk & Kolk, 1997). It was hypothesised that higher masculinity would be associated with fewer reported depressive symptoms and that this association would be mediated by the factors of the model: external information, selective attention to body, and symptom attribution.

Contrary to hypothesis, there was no association between masculinity and reported depressive symptoms. Also contrary to hypothesis, masculinity was found to be associated with heightened rather than reduced symptom perception. The factors of the model were found to be associated with depression in the hypothesised directions and the model accounted for 38% of the variance in depressive symptom reporting. On the basis of these results, it is concluded that men's lack of help seeking for depression is not likely to be due to differences in symptom perception.

The Discussion section will explore these results in detail, before discussing the conclusions drawn from these results in the context of previous research as outlined in the Introduction. The strengths and weaknesses of the study are then explored, followed by a detailed examination of two aspects of the study: the validity of the measure of masculinity in the study population and the model of symptom perception used in the study. The findings are then explored in relation to clinical practice and consideration is given to recommendations for future research. The section ends with overall conclusions.

4.1. Summary of Results

This section will explore the findings of the current study in the context of the hypotheses and relevant literature. There are three sections which consider the hypotheses of the study: masculinity and depression, masculinity and symptom perception, and symptom

perception and depression. The final section provides an overall summary of the findings and draws conclusions on this basis. The subsequent section (Section 4.2.) examines these conclusions in the context of the literature outlined in the Introduction.

4.1.1. Masculinity and depression.

It was hypothesised that men endorsing traditional masculinity ideology to a greater extent would report fewer depressive symptoms than their counterparts endorsing it to a lesser extent. However, no significant association was found between masculinity and depression. This finding is explored below.

Given evidence to suggest that, when compared to women, men report fewer symptoms of depression (Section 1.3.4.3.), it was hypothesised that higher levels of masculinity would be associated with fewer reported depressive symptoms (as men are likely to be more masculine than women). This hypothesis was also supported by the theories of masculinity as outlined above (Section 1.3.3.1.3.), both of which suggested that the dominant form of masculinity discourages emotional expression and the admittance of weakness in men. It was hypothesised that men who position themselves closer to this dominant form of masculinity would therefore be less likely to report depressive symptoms. Finally, theories about the socialisation of emotion expression (Section 1.3.4.1.) suggested that men who had been more strongly socialised to experience negative affect as anger rather than sadness, might be likely to score lower on measures of depression.

It was noted (in Section 1.3.4.3.) that the majority of previous research exploring the relationship between masculinity and depressive symptoms had used either measures of gender role orientation (such as the BSRI and the PAQ) or measures of gender role conflict (such as the GCRS). The bias of these measures, the former to the positive aspects of masculinity (i.e. instrumentality) and the latter to the negative aspects (i.e. distress associated with the male gender role) confounded the results of previous research. Positive aspects of

masculinity were associated with lower depression levels, whereas negative aspects of masculinity were associated with higher depression levels. The only known previous study to investigate the association between depression and masculinity, as measured in a neutral fashion (using the CMNI), found no significant association between depression scores and the total score of the CMNI (Mahalik et al., 2003).

The current study found no significant association between masculinity and depression. It therefore replicates the null result of the only known study to test for an association between the report of depressive symptoms and masculinity, as measured in a balanced fashion. It seems likely, therefore, that there is no relationship between masculinity and reported depressive symptoms.

4.1.2. Masculinity and symptom perception.

It was hypothesised that higher masculinity would be associated with increased external information, reduced selective attention to the body, and reduced tendency to psychological attribution. However, greater endorsement of traditional masculinity ideology was found to be significantly associated with decreased external information and increased selective attention to the body, both contrary to expectation. In addition, no significant association was found between tendency to psychological attribution and masculinity. These unexpected findings are explored below.

4.1.2.1. Masculinity and external information.

Theories were reviewed in the Introduction (Section 1.3.5.2.1.) that suggested hegemonic masculinity or traditional masculinity ideology encourage men to retain power and authority, to be extremely self-reliant, and to avoid showing emotion. This suggests that men in general, and men more closely positioned to these ideals in particular, might be more likely to work towards and achieve positions of authority in society, which are likely to

require a significant time commitment; i.e. to result in a high level of external information. It was noted that there was no empirical evidence to support this theoretical premise.

The current study found that higher masculinity was associated with lower external information. This is therefore the first known study to find a significant association between masculinity and external information, albeit in a counter-theorised direction.

It seems that men endorsing traditional masculinity ideology to a greater extent are less likely to have busy and stimulating external environments when compared to their counterparts endorsing traditional masculinity ideology to a lesser extent. The reasons for this finding remain unclear.

4.1.2.2. Masculinity and selective attention to the body.

In relation to selective attention to the body, it was hypothesised that men endorsing traditional masculinity ideology to a greater extent would be less likely to attend to their bodies than their counterparts, as the ideology discourages men from attending to and expressing their emotions and encourages them to remain tough and powerful. However, the results of this study suggest the opposite; there is an association between higher levels of traditional masculinity ideology and higher levels of selective attention to the body. This may be due to inconsistencies and contradictions in traditional masculinity ideology, as suggested by Pleck (1981). On the one hand, men are encouraged to ignore and suppress signals from their bodies about negative affect and weakness (Levant et al., 2007). On the other hand, men are encouraged to present themselves as strong and powerful; to position themselves relative to a muscular masculine ideal (Grogan & Richards, 2002; Ricciardelli, Clow, & White, 2010). In order to achieve a figure of muscularity, men must attend to their bodies.

This suggestion has some empirical support. Firstly, there is evidence of an increasing focus on men's muscularity in the media (Pope, Phillips, & Olivardia, 2000; Ricciardelli, Clow, & White, 2010; Wienke, 1998). The model of muscularity provided in the media also

conforms to the theoretical bases of hegemonic masculinity and the gender role strain model in that it represents a relatively unachievable ideal (Pope, Phillips, & Olivardia, 2000) that nevertheless should be worked towards (Ricciardelli, Clow, & White, 2010). A heightened sense of a muscular ideal has also been associated with greater endorsement of traditional masculinity ideology (Frederick et al., 2007). In this context, men appear to be asked to have an exploitative relationship with their bodies; current dominant forms of masculinity appear to demand a suppression of pain and negative affect, but an awareness of the body in terms of its ability to be altered and built to conform to the muscular ideal. In support of this idea, one study found that, amongst weight-lifters, regular users of anabolic-androgenic steroids were stronger endorsers of traditional male role norms than non-users (Kanayama, Barry, Hudson, & Pope, 2006).

In summary, the unexpected finding that stronger endorsement of traditional masculinity ideology is associated with higher selective attention to the body may be due to the physical manifestation of traditional masculinity ideology in terms of a muscular masculine ideal.

4.1.2.3. Masculinity and symptom attribution.

It was hypothesised that the discouragement of men to express their emotions and to show weakness would result in a reduced tendency to attribute sensations to psychological causes (Section 1.3.5.2.3.). No relationship was found between tendency to psychological attribution and masculinity and therefore there was no support for this hypothesis.

It appears that differential endorsement of traditional masculinity ideology is not associated with tendency to psychological symptom attribution.

4.1.2.4. Summary of results in relation to masculinity and symptom perception.

Contrary to the hypotheses of this study, masculinity was positively associated with two of the three factors of the model of symptom perception and not associated with the third.

The results suggest that greater endorsement of traditional masculinity ideology is associated with reduced external information, increased selective attention to the body, and that it is unrelated to tendency to psychological symptom attribution. These results suggest that, contrary to hypotheses, men endorsing traditional masculinity ideology to a greater extent are more likely to notice their bodily sensations than their counterparts endorsing the ideology to a lesser extent, and that they are just as likely to attribute these bodily sensations to psychological causes.

4.1.3. Symptom perception and depression.

It was hypothesised that increased external information, reduced selective attention to the body, and reduced propensity to psychological attribution would all be associated with fewer reported depressive symptoms. All of these hypotheses were supported by the results of this study. In addition, the factors together explained around 38% of the variance in depression scores. The only other study to test the model of symptom perception as a whole found that the factors of the model explained 43% of the variance in physical symptom reporting (Kolk, Hanewald, Schagen, & Gijbers van Wijk, 2003). This study is the first known study to demonstrate parallel results in depressive symptom reporting.

These findings suggest that differences in symptom perception account for around 40% of the variance in reported symptoms. Considering that there are likely to be differences in the levels of symptoms across individuals (i.e. differences in internal information), this is an important finding. This finding suggests that around 40% of the variance in symptom reporting is due not to the levels of symptoms in the body, but due to differences in the way individuals perceive these symptoms.

4.1.4. Summary of findings and conclusions.

In the sample of the current study there was no association between masculinity and depressive symptoms. There was evidence to suggest that those endorsing traditional

masculinity ideology to a greater extent were more likely than their counterparts to notice bodily sensations, as measured by the model of symptom perception. There was evidence to support the utility of this model of symptom perception in that its factors explained 38% of the variance in depression scores.

It appears that, in this sample, masculinity is unrelated to depressive symptoms and is related to enhanced rather than reduced symptom perception. It is therefore concluded that men's lack of help seeking behaviour for depression is unlikely to be related to differences in their perception of depressive symptoms.

4.2 What of Men's Help Seeking for Depression?

It was argued in the introduction that the majority of research into men's help seeking behaviours for depression had focused on isolated aspects of the help seeking process and that this had led to a relative neglect of the primary stage of the help seeking process – the perception of depressive symptoms. With the conclusion that men's lack of help seeking for depression is unlikely to be related to differences in the perception of depressive symptoms comes a repositioning of research in this area. This section reviews theories and evidence outlined in the Introduction in the context of this finding. There are three sections, covering the socialisation of emotion expression, the male depressive syndrome, attitudes towards seeking help and other frameworks, all of which are followed by a summary.

4.2.1. Socialisation of emotion expression.

Evidence was reviewed in the Introduction (Section 1.3.4.1.) to suggest that gendered learning about the expression of emotion might impact upon the experience of emotion and hence the perception of depressive symptoms. Specifically, it was suggested that gender stereotypes about boys and men not expressing “soft” emotions might result in men being less likely than women to experience negative emotion as sadness or depression and more

likely to experience it as anger, irritability, or not at all. Hence the theory suggests that men who are more strongly socialised to these ideas, i.e. men higher in masculinity, would be less likely than their counterparts to perceive symptoms of depression. The findings of this study suggest, contrary to these ideas, that masculinity is associated with heightened rather than reduced symptom perception. It appears that any impact of gendered learning on emotionally-driven behaviour is likely to be the result of a process following the perception of symptoms (for example the expression of symptoms) rather than on the perception of symptoms per se.

4.2.2. Male Depressive Syndrome.

The theory of the male depressive syndrome (Section 1.3.4.2.), suggests that men perceive or experience the symptoms of depression in a different way than women. Specifically, it was theorised that they were more likely to experience symptoms in terms of increases in aggression, impulsivity, and endorphin/serotonin related behaviour (such as alcohol or drug misuse, workaholism, or working out), as compared to females who were theorised to be more likely to experience symptoms of passivity and apathy (Rutz, 1999). Whilst this is a sex difference theory and as such says little about within sex differences (e.g. Addis, 2008), it could reasonably be hypothesised that differences in symptom perception within male populations would be associated with degree of maleness, or masculinity. Counter to this hypothesis, this study found no association between masculinity and reported depressive symptoms and also found that masculinity is associated with heightened rather than reduced symptom perception.

In this context, it seems unlikely that there exists a male depressive syndrome resulting from differences in the way in which men and women perceive depressive symptoms. It is more likely that the clinical experience of the proponents of the theory, and indeed the items of the Gotland Male Depression Inventory (Zierau, Bille, Rutz, & Bech,

2002), relate not to depression as it is perceived by men, but to some process following this perception.

4.2.3. Attitudes towards seeking help and other frameworks.

It appears that the association between higher masculinity and a lack of help seeking for depression cannot be explained by differences in the perception of depressive symptoms. If men, irrespective of their endorsement of traditional masculinity ideology, are similarly aware of depressive symptoms, the associations between masculinity and help seeking behaviours are most likely the result of a process taking place between the perception of symptoms and the seeking of help.

Theories beginning from this premise are therefore best placed to explore the finding that more masculine men are less likely to seek help for depression than their counterparts. As outlined in the Introduction, existing research on this aspect of the process has focused on attitudes towards seeking psychological help (Sections 1.3.2.2., 1.3.3.2., and 1.3.3.3.) and there is evidence of the potential utility of this model in relation to help seeking. However, there are other theories that are also in a position to begin to examine the process taking place between symptom perception and help seeking; two examples are discussed below: the Common Sense Model of Illness Representations (Section 4.5.3.) and Self-Categorisation Theory (Section 4.5.4.).

4.2.4. Summary

The results of this study suggest that masculinity is not associated with reduced symptom perception and that individuals endorsing traditional masculinity ideology to a greater extent are in fact more likely than their counterparts to notice bodily sensations. Theories suggesting that males and those higher in masculinity have reduced depressive symptom perception, such as the socialisation of emotion expression theory and male depressive syndrome theory, are therefore not supported by the findings of this study.

Theories beginning from the perception of symptoms and focusing on the process from this point to the point at which help is sought are therefore best placed to explore the finding that men higher in masculinity are less likely to seek help than their counterparts. Some examples of such frameworks include attitudes research, the Common Sense Model of Illness Representations, and Self-Categorisation Theory.

4.3. Strengths and Weaknesses of the Study

This section outlines the strengths and weaknesses of the design employed in this study. It covers the recruitment strategy, the characteristics of eventual sample recruited, the reliability and validity of the measures used in the study, the use of the internet for data collection, and the study design. Two further aspects of the study are considered in greater detail following this section, the validity of the measure of masculinity in this population (Section 4.4.) and the model of symptom perception chosen for the purposes of this study (Section 4.5.).

4.3.1. Recruitment strategy.

The recruitment strategy of this study was successful in relation to obtaining an adequately sized study sample; 240 participants completed all questionnaires, more than the 212 estimated to provide adequate power for the study. Therefore the study had adequate power to test all of the hypotheses.

It is likely that the recruitment strategy, however, had a greater impact on the study sample than simply its size. Three aspects of the recruitment strategy in particular, might be expected to impact on the characteristics of the eventual study sample: firstly, recruitment via employers, secondly, the use of the internet as a recruitment medium, and thirdly, the use of the incentive and the way it was publicised. These three factors are explored in detail below.

4.3.1.1. Recruitment via employers.

The recruitment strategy involved making potential participants aware of the study via their employers, which meant that the majority of the sample was likely to be in work. This left many men under-represented, for example those who were studying, looking after the home, off sick from work, unemployed, or retired. This focus of the study on men currently in work would be expected to have an impact not only on the eventual demographic characteristics of the sample in terms of employment status, but to have a corresponding impact upon other demographic factors. In particular, the sample would be expected to be of working age and to have a higher household income than the general population (by virtue of employment).

In addition to these anticipated biases in the study population as a result of the recruitment strategy, the actual process of recruitment created further bias. Despite the researcher's best efforts, the sample was recruited from a relatively narrow population of six employers. As no data were collected from participants about their employer, detailed analysis of the number of participants recruited from each employer was not possible. Nevertheless, given the relative size of the six employers, it was calculated that, given equal likelihood of recruitment from each employer, around 92% of the sample were likely to have worked for the county council (Section 3.3.1.).

The recruitment process – both through anticipated and unanticipated factors – therefore resulted in a sample that would be expected to be dominated by men of working age, currently employed and at work, probably working in the public sector, and (given employment) economically fairly comfortable. This means that the sample of this study cannot be considered representative of the population of the East of England and any generalisation of the findings to men in general is based on a process of extrapolation rather than empirical evidence. Detailed exploration of the actual demographic characteristics of the

sample as compared to the population of the East of England is outlined below (Section 4.3.2.).

4.3.1.2. Use of the internet for recruitment.

Whilst the recruitment strategy of the current study involved recruiting employers to make their staff aware of the study, it used the internet as a medium of recruitment in that employers either sent emails to their staff or used the staff intranet to make their staff aware of the study.

The validity of the use of the internet for the purposes of recruitment has been questioned on the basis that the sample is likely to be non-representative of the general population as a result of the different characteristics of those that use the internet (Krantz & Dalal, 2000; Kraut et al., 1998). Whilst this is inevitably the case with internet research, bias is also inevitable as a consequence of using traditional recruitment methods. One study compared these biases empirically by examining the demographic characteristics of an internet sample and those of the participants of 510 published traditionally-recruited samples (Gosling, Vazire, Srivastava, & John, 2004). They found that although the internet samples were not representative of the general population, they nevertheless had greater diversity (in terms of gender, socio-economic status, geographic region, and age) than those of studies using traditional sampling methods.

It appears that, in general, the use of the internet for the purposes of recruitment can be expected to result in sample populations that differ from both those of the general population and the samples arising from more traditional methods of recruitment. Nevertheless, internet-derived samples seem to reflect greater diversity along many domains when compared to traditionally-derived samples.

The combined use of both employers and the internet in the recruitment of the current sample may, however, be expected to result in a greater bias than that of the research outlined

above. Combining these two factors makes it most likely that respondents to this study were men who used computers routinely as part of their work and for whom the completion of the survey would not require a great deal of effort. The likely demographic characteristics of these men are explored below.

The Workplace Employment Relations Survey of 2004 questioned 22,453 workers from 1,733 randomly-selected representative establishments of the UK about various aspects of their work. Results relating to computer use at work suggested that that 75% of the sample reported using a computer at work, although it was noted that this was perhaps an over-estimate (Dolton & Pelkonen, 2007). The study also examined links between demographic variables and computer use, finding that computer use was significantly associated with age (those aged between 20-49 more likely than younger or older workers to use computers), education (higher education being associated with computer use at work), gender (females more likely than males to use computers) and length of time with employer (those with longer tenures less likely to use computers at work).

Overall, it appears that the use of the internet as a recruitment medium could potentially produce a more demographically diverse population than traditional recruitment methods. This is particularly important in the context of a study focusing on men and men's depression, a population and a topic for which recruitment might be difficult (e.g. Holden, Rosenberg, Barker, Tuhim, & Brenner, 1993; Smith & Leigh, 1997). This is tempered by the fact that combining the use of the internet with recruitment via employers would have the likely effect of biasing the sample towards higher education and younger age in this working age population. Again, this has serious implications when considering the generalisability of the results of this study (the actual demographics of the study sample are further explored in section 4.3.2.).

4.3.1.3. Incentive.

An incentive was used in this study as there is evidence that providing an incentive improves response rates (Satia, Galanko, & Rimer, 2005; Tishler & Bartholomae, 2002). Evidence also suggests that incentives have a differential impact depending on the demographic characteristics of the individual (e.g. Tishler & Bartholomae, 2002). One study found that this impact could be positive; incentives had a greater positive impact among potential participants with less education and those who were otherwise less likely to participate (Guyll, Spoth, & Redmond, 2003). Men, as outlined in the Method (Section 2.4.1.) are typically fairly difficult to recruit to research, so it was anticipated that the incentive would assist recruitment in this population. However, it was also recognised that the use of the incentive would have an impact on the eventual demographic characteristics of the sample.

The incentive chosen was a Red Letter Day that offered a choice of day out or experience. The four options highlighted in the publicity for the study were driving, piloting, whiskey tasting, and the London eye; the voucher gave the winner a choice of over 100 experiences. The Red Letter Day and the four illustrations were chosen to appeal to a broad range of men, but there is a bias in both the Red Letter Day activities and the illustrations chosen for this study, towards adrenalin activities such as driving and flying. These could be considered more typically masculine pursuits. The other options, such as eating out in restaurants and whiskey tasting could be criticised on the basis that they are pursuits more likely to appeal to those of greater socio-economic status. The choice of incentive is therefore likely to have a differential impact across potential participants, perhaps biasing the sample towards more masculine men and towards those of greater socio-economic status. Again, this bias has a detrimental impact on the generalisability of the results (the actual demographics of the study sample are further explored in section 4.3.2.).

4.3.1.4. Summary

Given the discussion of these issues, it is clear that there are caveats when considering the generalisability of this sample to males in general. In particular, the sample of this study are likely to be employed, currently working, use a computer for work, and enjoy either adrenaline sports or pursuits such as eating out in restaurants and whiskey tasting. This means that the sample is likely to be better educated and to have higher incomes, and higher socio-economic status when compared to the general population of the East of England. When compared to other samples in the literature, however, which are primarily selected on the basis of enrolment in a psychology programme in a US university, the efforts made to recruit a more ecologically valid sample, despite the eventual and inevitable biases, can be seen as a relative strength of this study. The extent of the eventual diversity (or otherwise) of the sample, as well as the constraints to generalisability, are best ascertained with reference to the constructs of interest to this study, in particular by comparing the characteristics of the study population to other populations. This is the focus of the next section.

4.3.2. Participant characteristics.

The generalisability of the sample is of interest in relation to three domains: demographics, depression, and masculinity. These areas will be discussed in turn.

4.3.2.1. Demographics.

As would be expected given the recruitment strategy, this was a working age sample; participants under 18 and over 65 were not well represented. As would also be expected, the majority of this sample was engaged in either full or part time work: only 2% of participants were not working compared to 36% of the general population of the East of England (ONS, 2001). When compared to the general East of England population, this sample was well educated (48% having at least a degree level qualification as compared to 18% of the general population; ONS, 2001) and had a higher household income (the mean was £41,000; 62% of

this sample had a household income greater than the national average of £30,000; ONS, 2009). The relationship status of this sample approximated the general population (51% married compared to 46% of the general East of England population) as did the ethnicity of this sample (88% White British compared to 92% of the general population) (ONS, 2001).

Overall, the study sample primarily comprised working age men, who were more likely to be employed, to be educated to a higher level, and to have higher household incomes than the general population of the East of England.

4.3.2.2. Masculinity.

Scores on the MRNI-R can fall between one and seven. In samples of American college men, total scores on the MRNI-R averaged 3.7 (Levant et al., 2007), and 3.6 (Levant, Wimer, Williams, Smalley, & Noronha, 2009). The mean in the current study was 2.6, substantially lower than the US samples. This suggests that men in this sample endorse traditional masculinity ideology, as measured by the MRNI-R, to a lesser extent than the US samples. A principle components analysis of the MRNI-R scores from this sample produced a single component consisting of loadings from almost all the items on the scale, suggesting that the instrument measures a unitary construct. This is at odds with a recent study which found support for the seven factor structure of the instrument in US college samples (Levant, Rankin, Williams, Hasan, & Smalley, 2010). This finding that there is a difference in the factor structure of the instrument in the two populations suggests that masculinity, as measured by the instrument, might possess a different quality in the two populations. Alternatively, it raises questions about the validity of the measure in this population (see Section 4.4. for a detailed discussion).

Overall, traditional masculinity ideology scores were lower in the study population than in the population with which the instrument was developed and normed, and also seemed to possess a different factor structure. In the absence of data from the UK it is not

possible to determine whether or not the distribution of masculinity scores in this population is representative of the population of the East of England. The association found between higher education and lower masculinity scores (Section 3.6.2.) might suggest that, given this population's level of education, masculinity scores might be lower than in the general population, but, in the absence of further evidence, this hypothesis remains speculative.

4.3.2.3. Depression.

Depression scores in this sample were substantially higher than in most studies of the general population (Section 3.6.1.). Almost twice as many participants in this study reached the cut-off used to indicate probable depression as in other non-clinical samples and the mean score on the CES-D was substantially higher. It seems that the population of this study were substantially more depressed than is usual in a non-clinical population. This might perhaps be due to employers increasing the focus on depression in the description of the study to their staff, as outlined in the method section (Section 2.4.2.1.), or perhaps the study information provided before completion of the survey (which necessarily had a focus on depression as it was the focus of the study), filtered out men who did not consider themselves depressed.

Overall, men in this study were more likely to be depressed than the general population of the East of England.

4.3.2.4. Summary

The sample recruited for this study were predominantly of working age, working, better educated and had a higher household income than the population of the East of England. They endorsed fewer items of traditional masculinity ideology than the normative US samples used for the masculinity measure and had higher levels of depression than most non-clinical samples. This sample is not therefore directly generalisable to the general population of the East of England and any inference drawn about a broader population of men is based on extrapolation and not empirical evidence.

The characteristics of this sample, despite differing in some ways to the general population, appear more ecologically valid than many previous studies in the area, conducted with samples of US college students. Relative to these populations, this study sample has increased diversity, for example in relation to age, income, education, and relational status. In addition, for a study investigating men and depression in a non-clinical population, that almost one third of the sample reaches the threshold for probable depression lends increased ecological validity.

4.3.3. Reliability and validity of measures used in the study.

Five measures were used in the current study. The reliability and validity of these measures is considered in this section: CESD, MRNI-R, EIQ, the BAQ, and the SIQ. Discussion in relation to the measure of masculinity, the MRNI-R, is also given special consideration in a subsequent section (4.4).

4.3.3.1. Depression as measured by the CESD.

As outlined in the Method (Section 2.3.2.) the CESD is a well-validated measure for assessing the level of depression in non-clinical populations. In the current study, the internal consistency of the measure was adequate (Section 3.4.), and the demographic associations found were broadly consistent with previous research (Section 3.6.1.). There is therefore no reason to question the reliability or validity of the measure in this population.

4.3.3.2. Masculinity as measured by the MRNI-R.

A detailed exploration of the validity of the MRNI-R, the instrument used to measure masculinity in this study, is provided in Section 4.4. This section concludes that the measure is most likely adequate for the purposes of the current study.

4.3.3.3. Quality and quantity of external information as measured by the EIQ.

The External Information Questionnaire (EIQ) was the only English-language instrument designed to measure the quality and quantity of information in an individual's

environment. It has adequate psychometric properties as outlined in the Introduction (Section 2.3.4.). In the current study, however, the internal consistency of the EIQ was .66, which is below the commonly accepted cut-off of .70 for satisfactory internal consistency.

Previous literature (Section 2.3.4.2.1.) also found fairly low levels of internal consistency (ranging from .67 to .80), indicating that there may be an issue with the measure in this respect. In addition, due to a relative scarcity of research using the EIQ, and the fact that only one study reported associations between the EIQ and demographic variables, it is unclear whether the associations found in this study provide support or otherwise for the validity of the measure.

The low internal consistency of the EIQ may be due to the theoretical basis of the measure. The concept of external information, as measured by the EIQ, has its origins in the competition of cues notion, included in the model of symptom perception, which hypothesises that internal information competes with external information for limited attentional capacity (Pennebaker, 1982). The theory states that individuals are more likely to attend to their internal states when there is little external information, or where there is so much external information that they feel overwhelmed (Pennebaker, 1982). Thus, whilst the concept of external information is a unitary one with a single dimension of increasing information, there are two opposite outcomes of interest in relation to the theory: lack of information and information overload. The way in which the EIQ is operationalised suggests that it attempts to measure both of these conditions along a single dimension; two example items include "I got bored" (lack of information) and "I did not have enough time" (information overload). Both concepts load on the single total score (the former is reverse-scored), which ostensibly measures the quality and quantity of external information in the environment. This duality of the measure may explain the relatively low internal consistency statistic; the measure may not be measuring a single construct, but two related constructs.

Indeed, one study statistically separated the constructs applying factor-analytic techniques to the items of this measure and those of a role conflict scale. This produced two factors that were named “attractiveness of external stimulation” and “experienced overload” (de Rikj, Schreurs, & Bensing, 1999).

It appears that there are conceptual problems with the EIQ, which are illustrated by the relatively low internal consistency found in this and previous studies. Nevertheless, there is some evidence to suggest that it measures the quantity and quality of external information in individuals' environments adequately, particular support for this notion comes from the associations found with diary measure of social roles, hours spent on paid employment, and hours spent engaged in activity (Gijsbers van Wijk, Huisman, & Kolk, 1999).

Overall, it appears that the measure is most likely adequate for the purposes of the current study, but that it might be improved through explicitly separating the two concepts inherent in the items of the measure.

4.3.3.4. Selective attention to the body as measured by the BAQ.

The Body Awareness Questionnaire (BAQ) was chosen to measure selective attention to the body as it was the most widely used measure and its psychometric properties had been adequately demonstrated (Section 2.3.5.). In the current study it had high internal consistency (Section 3.4.) and was unrelated to almost all demographic characteristics, consistent with previous research (Section 3.6.4.). There is therefore no reason to question the reliability or validity of the measure in the current study.

4.3.3.5. Symptom attribution as measured by the SIQ.

The Symptom Interpretation Questionnaire (SIQ) is the only known instrument that measures the tendency to attribute bodily sensations to psychological, somatic, or normative causes (Section 2.3.6.). The psychological subscale alone was considered in this study, as this was the basis of the hypotheses (Section 1.4.1.). There is evidence in support of the

instrument's reliability; previous research has found adequate internal consistencies and the internal consistency of the psychological scale was also adequate in the current study.

There are, however, questions about the validity of the subscales of the SIQ. In relation to the psychological subscale, the only subscale considered in the current study, there appears to be evidence in support of its convergent and predictive validity; it was found to predict psychological symptom presentation over the next six months and was associated with illness worry, psychological symptoms, psychiatric diagnoses, neuroticism, and psychological self-consciousness (Section 2.3.6.2.2.). There is less evidence in support of its discriminant validity, however; it has been criticised as being a measure of generalised distress in a number of life domains, being associated with negative mood, neuroticism, physical illness, and daily hassles (Aronson, 2006).

Examination of the theory behind the measure may shed light on these issues. Bodily sensations are specific phenomena experienced in a time-limited manner and in the context of other internal and external information. Attribution is a cognitive activity based on a model of cause and effect, which involves the attribution of these specific bodily sensations to a specific cause. Measures of attribution, however, tend to measure tendencies in relation to attribution rather than specific attributions in specific situations. The theory underlying the SIQ suggests that individuals possess broad tendencies to attribute sensations to psychological, somatic, or normal causes. The measure is constructed to provide explanations corresponding to each of these attributions for 13 hypothetical scenarios. Respondents are given scores dependent on the number of each type of attribution that they make and these are used to represent tendencies to attribution. The existence of these broad tendencies is inferred on the basis of test-retest reliability of the three subscales. However, it is possible that the measure also taps other tendencies in relation to attribution, for example the tendency to attribute sensations to problems (whether psychological or somatic) rather than normal

responses to the environment. There is some evidence that the SIQ does also tap this tendency in that both psychological and somatic scores have been associated with neuroticism (Aronson, 2006). The psychological subscale of the SIQ could therefore be seen to measure both a general tendency to attribute sensations to problems rather than to normal bodily responses, as well as a more specific tendency to psychological attribution. This might perhaps explain the lack of discriminant validity of the subscale.

In summary, the SIQ psychological subscale does appear to measure a tendency to psychological attribution, as reflected in tests of convergent validity and test-retest correlations. However, it lacks discriminant validity, perhaps because it also measures a more general tendency to attribute sensations to problems rather than normal causes. It is concluded that the SIQ subscale is sufficient for the purposes of this study, but that there are caveats to conclusions given its imprecise nature. A more general consideration of the reliance on general tendency of this and other aspects of the model of symptom perception is provided in Section 4.5.

4.3.3.6. Summary.

Of the five instruments used in the study, there are questions about three of them: MRNI-R, EIQ, and SIQ. Nevertheless, for the purposes of this study all measures appear to be adequate, although future research could address some of the criticisms outlined in this discussion.

4.3.4. Use of the internet for data collection.

The likely impact of the use of the internet for recruitment purposes was outlined above (Section 4.2.1.2). However, there is also evidence to suggest that the use of the internet for gathering data might impact on the results of the study. Research has primarily focused on the types of responses participants provide via the internet compared to other means and has tended to find heightened levels of disclosure.

Research suggests that paper and pencil methods of data collection typically involve greater levels of self-disclosure than interview methods (e.g. Bradburn & Sudman, 1979; Tourangeau & Smith, 1996). Early research using computer-assisted self-interviewing, which generally proceeded by a researcher directing the participant to a particular computer for the purposes of testing, found that this method enhanced disclosure to a greater extent than paper and pencil methods (Evan & Miller, 1969) and resulted in fewer socially desirable answers (Martin & Nagao, 1989). It has been found that data collected in this way is associated with greater reports of mental health problems (Epstein, Barker, & Kroutil, 2001) and greater reported HIV risk (Des Jarlais et al., 1999).

With the advent of the internet, it is now possible for participants to take part in research without the researchers having any contact with them, or any other knowledge about them other than the information they choose to provide in the survey. Surveys conducted in this context, when compared to paper and pencil methodologies, have been associated with higher levels of self-disclosure (Weisband & Kiesler, 1996), reductions in socially desirable responding (Frick, Bächtiger, & Reips, 2001) and a greater willingness to answer sensitive questions (Tourangeau, 2004).

Ben Ze'ev (2003) argues that these differences can be explained via the concept of privacy and its conflict with openness and closeness. He defines privacy as that which is confined to, or intended only for, a certain person, and argues that, in order to build close emotional relationships with others, we need to be open, to relinquish some privacy. In face-to-face interactions, disclosing personal information to another results in a sense of emotional closeness but also a sense of vulnerability. On the internet, where it is relatively easy to control the information that is shared, this sense of vulnerability is reduced; information that is seen to threaten us can be withheld and we can therefore be more open about other matters. In many internet forums, relative anonymity provides this greater sense of safety and this has

a corresponding impact on the level of self-disclosure. There is evidence to support this notion; one study found that personalised emails increased responses to web-based surveys, but also increased item non-response to sensitive questions (Joinson, Woodley, & Reips, 2007). In another study, it was found that respondents were more likely to report socially undesirable behaviours to a geographically remote computer than one closer to them (Moon, 1998). A final study found that privacy concern was associated with disclosure on a web-based survey, and that these effects appeared to be moderated by trust in the survey (Joinson, Paine, Buchanan, & Reips, 2007).

What this means for the current study is that men participating in this study were likely to disclose information that they perceived as socially undesirable or threatening to a greater degree than they would do in face to face or paper and pencil situations. This enhanced disclosure is important because it increases the validity of the assumption made in this study, that the symptoms reported are closely related to the symptoms perceived.

4.3.5. Design

Previous research in this area, as outlined in the introduction (e.g. Section 1.3.6.) is characterised by exploratory methodologies with little theoretical basis. In contrast, this study began with a comprehensive and critical review of previous research, before outlining a reasoned and justified proposal to begin at the beginning, with the perception of depressive symptoms. The study adopted a model of symptom perception, and set out to test whether it mediated an association between masculinity and depressive symptom reporting. Theoretical and empirical evidence were reviewed and these informed the research question and hypotheses of the study. These are relative strengths of the design, particularly in the context of previous research in the area.

What this study and much previous research in the area have in common, however, is a reliance on cross-sectional designs. Whilst useful in terms of being able to recruit large

samples, these designs are weak in relation to causation. Associations between factors of the model and depression do not provide evidence of causal links; i.e. the association between increased selective attention to the body and depressive symptom reporting is theorised to support the hypothesis that increased selective attention to the body makes individuals more likely to notice bodily sensations and hence, also, depressive symptoms. The cross-sectional association in this study, however, provides just as much support for the hypothesis that depressive symptoms make individuals more likely to selectively attend to their bodies.

4.3.6. Summary

In conclusion, this study made clear attempts to address the criticisms of previous research as outlined in the Introduction. Firstly, the recruitment strategy provided a sample of adequate power to test the hypotheses of the study. Secondly, the eventual sample recruited was more diverse and included a broader range of depressive presentations, when compared to the majority of previous research which has relied on US college samples. Thirdly, the use of the internet for the purposes of data collection increased the likelihood of disclosure thereby increasing the likely validity of the measures used in this study. Fourthly, this study had an emphasis on the theoretical foundation of the study and the clear citing of the research question in relation to a broad and thorough critique of the area are relative strengths of the design. These are the main strengths of the study in comparison to previous literature. There are questions about the validity of three of the five measures used in this study and the study is weak in terms of its reliance on cross-sectional methods, which means that causations arising from this theoretical background cannot be tested.

The next two sections focus on a discussion of two particular aspects of the study: the validity of the measure of masculinity and the model of symptom perception.

4.4. MRNI-R as a Measure of Masculinity in this Population

The MRNI-R was employed in this study as it was considered to be the most appropriate measure, but it was recognised that all the available measures were developed and normed in a population very different to that of the current study. This raises questions as to the validity of using these measures in the study population. An exploration of the particular validity of the MRNI-R, the measure used in this study, is provided below.

4.4.1. Development of the MRNI-R.

The MRNI-R, as outlined in the Method section (2.3.2.1.), is a measure with adequate internal consistency and reliability. Its validity has also been demonstrated via its correlation with other similar measures and its non-correlation with other dissimilar measures. However, as outlined in the Introduction (Section 1.3.3.1.), current theories of masculinity propose the existence of a dominant and powerful form of masculinity which is socially constructed. The measures all begin with a definition of this dominant form of masculinity, but, given its socially constructed nature, this definition is specific to the *Zeitgeist*. The MRNI-R, like many measures of masculinity, was developed and normed in a relatively homogeneous population of US college students. When comparing the population with which the measure was developed and the population of this study, there are a number of obvious differences: it is likely that this study population is older, at a different stage of education, has a higher income, is more likely to be in a relationship or married, has a different ethnic mix, and is embedded in UK rather than US culture.

These differences raise questions about the validity of the measure in the study population. The best way to further examine these questions is by exploring other conceptualisations of masculinity in the UK, the topic of the next section.

4.4.2. Masculinity in the UK.

There are no instruments of masculinity that have been developed in the UK, otherwise these would have been considered for the purposes of the current study. Nevertheless, there is some, primarily qualitative, exploration of masculinity in UK populations. The review below focuses on two aspects of the MRNI-R. Firstly, its theoretical premise of a dominant form of masculinity that is embodied by relatively few men, but which all men must position themselves relative to. Secondly, the content of this dominant form of masculinity as articulated by the subscales of the MRNI-R, namely: avoidance of femininity, fear and hatred of homosexuals, extreme self-reliance, aggression, dominance, non-relational attitudes toward sexuality, and restrictive emotionality.

Phoenix and Frosh (2001) aimed to examine the utility of Connell's (1995) notion of hegemonic masculinity in adolescents living in London. Specifically, the study set out firstly to test whether there was evidence of a pervasive and powerful form of masculinity in the accounts of their participants and secondly to explore the impact that this hegemonic masculinity had on their lives. They conducted interviews, both individually and in groups, with boys aged between 11 and 14 years from various London schools. In their qualitative analysis, they noted the existence of two types of narrative, "canonical narratives" which are general stories about how lives may be lived within the culture and "personal narratives" which are more specific positionings in relation to these narratives (Bruner, 1990). As outlined in the introduction (Section 1.3.3.1.3.) the canonical narrative would be the narrative of hegemonic masculinity or traditional masculinity ideology and the personal narrative would be the positioning of the self in relation to this masculinity (e.g. the conformity with, or endorsement of, the norm). An example of a canonical narrative from the study is: "Int.: Can you tell me what makes boys popular? Joey: Clothes. Int.: Clothes? What sort of clothes then? Joey: Designer clothes" (p.30). An example of a personal narrative, the positioning in

relation to the canonical narrative is “Yeah, I just say to them ‘look as long as I wear good clothes, as long as I’ve got a decent pair of clothes and trainers it really don’t matter what name brand it is’” (p.32).

The adolescents of the study provided narratives of masculinity that presented hegemonic masculinity as if it was ‘an unattainable ideal’ (Phoenix & Frosh, 2001, p. 29). This is consistent with the theoretical premise of a dominant form of masculinity that is practiced, or adhered to, by relatively few men, although all men must position themselves in relation to it. The content of this dominant form of masculinity, as perceived by the adolescents from London, included attributes of ‘hardness’, appearance (including physical appearance and clothes, specifically wearing brand names), being able to talk to girls, sporting prowess, capacity to subvert schooling, and the avoidance of being seen as gay, which parallel many of the subscales of the MRNI-R.

Another qualitative study explored alcohol consumption in a sample of 45 young men from London, UK, who were interviewed individually and in groups (de Visser & Smith, 2007). In this study many young men spoke of a dominant form of masculinity in which excessive drinking and being able to ‘hold your drink’ was an important aspect. Other dimensions included drug- taking, casual sex, and getting into fights. In a later study two participants in particular, who defined themselves as ‘not very manly men’, spoke about a dominant masculinity defined by machismo, leadership, dominance, and competitiveness; this was in contrast to femininity which was characterised by being thoughtful, quiet, and intuitive (de Visser, 2009). The theoretical premise of a dominant masculinity relative to which men must position themselves is exemplified by these men who positioned themselves as ‘not very manly men’ by virtue of their ‘feminine’ traits. Also, the content of this dominant form of masculinity again appears compatible with the subscales of the MRNI-R.

Finally, a qualitative study examining Welsh adolescent boys' experiences of mental health found a perception that males ought to be competitive, have gainful employment, be aggressive and dominant, and have a focus on their reputation (McQueen & Henwood, 2002), sentiments which are again compatible with the subscales of the MRNI-R.

These studies support the notion that a dominant form of masculinity exists in the UK, in much the same way as it does in the US. In addition, the dimensions of this dominant form of masculinity, as described by participants of these UK studies, parallel many of the dimensions of MRNI-R. Aggression, dominance, non-relational sex, fear and hatred of homosexuals, avoidance of femininity, and extreme self-reliance are all covered in some form. It appears that there is evidence of a dominant form of masculinity in the UK that is defined along similar dimensions to the US.

Given this support in UK samples for the theory upon which the MRNI-R is based, the question is then about the validity of the MRNI-R at an operational level; whether the wording and the tone of the items resonates with samples from the UK population. This is the topic of the next section.

4.4.3. Validity of the operational definition of masculinity in the MRNI-R.

The validity of the operational definition of masculinity of the MRNI-R is a difficult area to explore, as the instrument measures the way in which an individual positions themselves against the dominant form of masculinity, and does not measure whether an individual agrees with the instrument's definition of this dominant form of masculinity. Nevertheless, some insights about the validity of the MRNI-R at this level can be gained by exploring the responses to the instrument in this study population.

Five aspects of the responses, in particular, are of interest. Firstly, there is a substantial difference in mean scores of the participants of this study and those of US college students (2.6 compared to 3.6 for the US college populations). Secondly, the factor structure

of the two data sets appears to be different; in this population a unitary factor best fits the data, whereas in the US samples, there was support for the theoretically-derived seven factor structure of the instrument. Thirdly, an analysis of the responses to the measure, collapsing across participants and items produced a picture of overall disagreement with the statements of the measure (over one third being rated as 'strongly disagree'). These three factors, taken together, suggest that, in general, men of this study did not believe that the items on this measure captured their positions in relation to a dominant form of masculinity. This could be due to the fact that, as a sample, they tended to reject this dominant form of masculinity or that the way in which the dominant form of masculinity was presented by the measure did not correlate with their own perceptions of the dominant form of masculinity. This might suggest a 'floor' effect, in which the majority of men disagreed with the majority of items on the measure, making the instrument insensitive to both between-subscales differences in responding and between-participant differences in masculinity. However, this conclusion is countered by the other two aspects of the data; the associations between masculinity and demographic factors, and the distribution of the data. As outlined in the Results (Section 3.6.2.), the associations between demographic factors and masculinity are broadly consistent with previous research, in particular the relationship between fewer qualifications and higher endorsement of traditional masculinity ideology. These consistencies support the notion that, in the sample of the current study, the MRNI-R is measuring a similar concept in a similar fashion to that of the US samples. Finally, the fifth aspect of the data, its distribution, suggests that, whilst the distribution is at the lower end of the range of possible scores, there is nevertheless a distribution of scores.

4.4.4. Summary and conclusion.

In relation to the validity of the MRNI-R in the study population, three characteristics of the scores on the measure are of concern, these are: the low mean score, the different

factor structure as compared to the normative sample, and the general picture of disagreement with the items of the measure. Nevertheless, there is evidence to suggest a general consensus on the broad aspects of masculinity in the US and the UK, supporting the validity in this population. Firstly, the construct was associated with demographic variables in similar ways to previous studies, which suggests that the measure was measuring a similar construct; secondly, it appears that there was a distribution of scores on the measure sensitive enough to differentiate between levels of masculinity in this population. It is concluded that whilst there are questions about the validity of this measure of masculinity in the study population that should be addressed in future research, the measure appears adequate for the purposes of this study.

4.5. Model of symptom perception.

The model of symptom perception used in this study is fairly recent and is based on empirical evidence. However, there are other models which also present theory and evidence in relation to symptom perception. This section aims to explore these models and their respective bases of evidence in relation to the perception of symptoms, using this information to investigate the strengths and weakness of the model of symptom perception used in the current study. The section begins with a summary of the evidence in support of the model of symptom perception and the theoretical implications of this evidence, before exploring the theory and evidence in relation to two other models: the Common Sense Model of Illness Representations and Self-Categorisation Theory.

4.5.1. Summary of evidence in support of the model of symptom perception.

The model of symptom perception outlined in the Introduction (Section 1.3.5.) suggests that internal information must be attended to before it reaches the level of awareness and is detected as a sensation. Whether or not an individual attends to internal information is

affected by the level of external information in the environment and the individual's general tendency to selectively attend to the body. Evidence outlined in the Introduction (Section 1.3.5.2.) suggests that, as predicted by the model, increased quality and quantity of external information is associated with lower levels of both physical symptom reporting and depressive symptom reporting (Section 1.3.5.2.1.). This finding was replicated by the current study in the context of depressive symptom reporting (Section 3.7.3.). Higher levels of selective attention to the body have also been associated with increased physical symptom reporting and increased depressive symptom reporting (Section 1.3.5.2.2.). Again, this finding was replicated by the current study in the context of depressive symptom reporting (Section 3.7.3.).

The model proposes that once internal information has been detected, it is attributed to one of three possible causes, a somatic cause, a psychological cause, or a normative cause. A tendency to psychological attribution has been associated with both increased physical and depressive symptom reporting; a tendency to somatic attribution has been associated with lower reported depression scores and with higher physical symptom reporting (Section 1.3.5.2.3.). The results of the current study also supported the model; increased tendency to psychological attribution was associated with increased depressive symptom reporting (Section 3.7.3.).

The model also posits two other general tendencies, negative affectivity and somatisation, which are posited to impact upon the three factors of the model as outlined above, and also upon the internal information arising from the body. Again, higher levels of these factors have been associated with higher physical and depressive symptom reporting (Section 1.3.5.2.4.). In the model, the effects of these factors were theorised to be primarily indirect and mediated by the three factors outlined above (Section 1.3.5.2.4.) and hence were not measured in this study.

One previous study that tested the model as a whole found that the factors of the model accounted for 43% of the variance in physical symptom reporting (Kolk, Hanewald, Schagen, & Gijbers van Wijk, 2003). The current study found that the factors of the model accounted for 38% of the variance in depressive symptom reporting. These figures, and the evidence outlined above, demonstrate that the model has considerable utility in examining symptom perception.

4.5.1.1. Theoretical implications of the findings in relation to the model.

The findings outlined above suggest that variations in symptom perception have a considerable impact on depressive symptom reporting, independent of the level of symptoms themselves. This finding has potential utility in relation to the development of interventions, suggesting that interventions designed to target aspects of symptom perception could potentially have almost as great an impact upon depressive symptom reporting as interventions designed to target the symptoms themselves.

An examination of existing treatments for depression with evidence of effectiveness reveals that aspects of these treatments are already likely to impact upon factors of the model. Two examples will be considered below.

Behavioural activation arose out of behaviour theory and was pioneered as a treatment by Lewinsohn (e.g. Lewinsohn & Graf, 1973). Individuals are helped, through detailed scheduling of activities, to gradually increase the likelihood of positive reinforcement for their behaviour and hence their likelihood of performing them again. The focus of the intervention is therefore on targeting the inactivity and avoidance associated with depression (Dimidjian et al., 2006). Behavioural activation has been shown to be an effective treatment for depression and is also an important component of effective Cognitive Behavioural Therapy (CBT) for depression (Jacobson et al., 1996). Whilst behavioural activation is thought to act upon the symptoms of depression, it would also be expected to impact upon

symptom perception, increasing the external information in individuals' environments, thus reducing attentional focus on internal information and hence the likelihood of perceiving bodily sensations.

Another important aspect of CBT is the challenging of negative automatic thoughts, in particular cognitive biases, which are hypothesised to be characteristic of depression (Beck, Rush, Shaw, & Emery, 1979). Particular cognitive biases implicated in depression include generalising and catastrophising (Overholser, 1995). Catastrophising is commonly understood to be a process in which individuals tend to expect or believe the worst in a particular situation. In symptom perception, catastrophising might be expected to manifest itself as a tendency to attribute bodily sensations to causes such as physical and psychological disturbance, rather than normal responses to the environment. Interventions such as CBT, designed to reduce cognitive biases, might be expected to reduce psychological and somatic attributions and increase normative attributions, reducing the depressive symptom reporting.

These two examples suggest that existing psychological interventions designed to treat depression appear to target the factors of the model of symptom perception tested in the current study. However, they do so implicitly and in a disorder-specific context; the interventions chosen as examples are both drawn from treatments for depression. That the model of symptom perception has been shown to explain around 40% of the variance in both depressive and physical symptom reporting supports the notion that it is a general model of symptom perception and not disorder-specific. It follows that interventions designed specifically to target heightened symptom perception might help reduce symptom reporting in a variety of domains, both physical and psychological. Specifically, the results of this study in the context of previous research suggest that, for individuals with heightened symptom perception, interventions designed to target the process of symptom perception

rather than the particular symptoms perceived may prove as, or perhaps more, effective than existing interventions.

Whilst these are assertions based on two single studies examining the utility of the model of symptom perception and care must be taken not to over-emphasise such results, they do provide strong support for continued research into the model.

Clearly there is much to be said in support of the model of symptom perception used in the current study. The model, however, also has its weaknesses, in particular, a reliance on individual general tendency; individuals' history and social context are incorporated into the model only in as much as they impact on general traits, such as selective attention to the body, tendencies to attribution, somatisation, and negative affectivity. This challenge applies both to individual constructs included in the measure (e.g. symptom attribution; see Section 4.3.3.5.) and also to the model as a whole. Other models contend that an individual's specific symptom history and their interpersonal and social context impact more directly upon their perception of symptoms. Two such models and the ways in which they differ from the model of symptom perception used in this study are outlined below.

4.5.2. Common Sense Model of Illness Representations

The Common Sense Model of Illness Representation (e.g. Diefenbach & Leventhal, 1996) views the individual as an active problem solver who seeks information and tests hypotheses. This process is structured by a cognitive construct known as an illness representation, which is thought to guide behaviour and the appraisal of outcomes. Illness representations are considered to be based on information from three different sources: the first is a general pool of 'lay' evidence already assimilated by the individual from previous social communication and cultural knowledge of illness; the second is information from perceived significant others, such as doctors and parents; and the third source of information is the current experience of illness (i.e. symptoms). Given these different sources of

information, the eventual illness representation may or may not be consistent with medical knowledge.

In relation to symptom perception, the model suggests that constructing an illness representation is a process in which links are made between abstract and concrete information (Leventhal, Diefenbach, & Leventhal, 1992). For example, experiences of symptoms (concrete information) may trigger a search for knowledge about the possible causes of these symptoms (abstract information), thus beginning the process of forming an illness representation. This representation then motivates the individual to begin a search for other possible symptoms that might be related to this condition. This model therefore suggests that symptom perception is affected not by broad tendencies in relation to attending to the body or attribution, but by an active search for evidence in relation to specific illness representations. Those illness representations that correspond, in the individual's mind, to the perceived symptoms then affect the likelihood of perceiving other bodily sensations in this context.

Research has investigated the hypothesis that illness representations are associated with symptom perception in physical health; two examples will be outlined below: hypertension and cardiac problems.

Hypertension, or high blood pressure, is believed to be an asymptomatic condition; it has no detectable symptoms (NICE, 2004). Nevertheless, research has found that many hypertensive patients report symptoms (e.g. Pennebaker & Watson, 1988) and in one study over 90% of patients believed that they could monitor their blood pressure using symptoms as indicators (Meyer, Leventhal, & Gutmann, 1985). This phenomenon has also been demonstrated experimentally. In one study, research participants were given bogus elevated blood pressure readings; participants subsequently reported symptoms they believed to be indicative of high blood pressure (Baumann, Cameron, Zimmerman, & Leventhal, 1989). Given that current medical knowledge holds that hypertension has no symptoms, it appears

that illness representations, incorporating a basic lay premise that illnesses have symptoms (Martin, Rothrock, Leventhal, & Leventhal, 2003), have a direct and specific impact on symptom perception. This specificity in symptom perception is something that is not sufficiently accounted for in the model of symptom perception used in this study, which is comprised of factors relating to general tendency.

In relation to cardiac problems, two studies have examined the impact of lay knowledge of illness on symptom perception. In the first study, participants were given vignettes about somebody experiencing symptoms in which gender and the existence of stressors were manipulated (Martin, Gordon, & Lounsbury, 1998). Results demonstrated that, when the vignette referred to a female, participants were less likely to attribute symptoms to cardiac problems when there were stressors in the environment; it was hypothesised that participants attributed the symptoms to stress rather than cardiac problems. However, when the vignette referred to a male, whether or not there were environmental stressors was no longer significantly associated with symptom attribution. It was concluded that stereotypes associating heart attacks with males rather than females may account for differences in the attribution of cardiac symptoms in others. A later study (Martin, 2000) investigating the attribution of individuals' own symptoms, found that female cardiac patients were less likely than their male counterparts to have attributed initial symptoms to cardiac problems. This demonstrates that cultural stereotypes were directly associated with symptom perception. Again, the specific nature of this association is not accounted for by the general tendencies of the model of symptom perception used in this study.

Overall, it appears that the evidence outlined above supports the notion that specific illness representations impact directly on the perception of symptoms. It appears that the mechanism of the effect of illness representations is likely to be similar to that of the model used in the current study: illness representations direct attention and impact upon the

attribution of cause to detected sensations. However, it appears that this impact is specific to individual illness representations and is not necessarily generalised to tendencies in relation to attribution, somatisation, and negative affectivity.

4.5.3. Self-Categorisation Model

The second model to be considered, the Self-Categorisation Model, asserts that individuals shift from defining themselves in terms of their personal identities to defining themselves in terms of their shared identities (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). It is suggested that, when a given identity becomes salient, the individual thinks and acts in terms of the beliefs that are relevant to that particular identity. In relation to symptom perception, it is proposed that individuals evaluate their symptoms with reference to their impact on situationally salient identities (Levine & Reicher, 1996). Therefore, symptoms are proposed to be evaluated differently depending upon the social context and the most salient identity relevant to this context.

To test these ideas, a group of students training in Physical Education (PE) was given scenarios about possible symptoms and asked to rate their seriousness (Levine & Reicher, 1996). Researchers manipulated the documentation provided to participants prior to making these ratings with the aim of making either their PE teacher or their gender identity most salient. They found that this manipulation had a significant impact on the ratings provided by participants; for example scenarios designed to be threatening to female gender identity were seen as more serious by women whose gender identity had been made salient than by women whose PE teacher identity had been made salient. A later study aimed to replicate the findings of this study in a group of female secretaries whose identity as women or as secretaries was made most salient (Levine, 1999). It also examined the impact of different reference groups on the evaluation of symptoms; exploring how rugby-playing men rated the seriousness of symptoms when these were to be compared with those of a sample of 'women' or 'new men'

from a men's discussion group. Results demonstrated that evaluations of symptoms were associated with both the salient identity and the comparator group. Women rated scenarios affecting their physical attractiveness as significantly more serious when their female gender identity was salient compared to when their identity as secretaries was salient. Men rated scenarios that affected their attractiveness as more serious when 'women' was the comparator group than when 'new men' was the comparator group. Whilst these findings provide support for the notion of self-categorisation theory, they do not demonstrate that the effects outlined above have a direct effect on symptom perception; they demonstrate an impact on symptom evaluation in hypothetical situations.

In response to this criticism, St Claire, Clift, and Dumbleton (2008) hypothesised that symptom perception would vary dependent on whether or not individuals self-categorised themselves as members of an illness group. To test this hypothesis, a convenience sample of adults was asked questions about cold symptoms whilst researchers manipulated the salience of illness group identity. As would be expected, individuals who said they had a cold scored higher on symptom measures than individuals who said they did not have a cold. However, individuals who said they had a cold rated their symptoms as more severe when their cold identity was salient than when it was not. Similar results were found for tinnitus symptoms. In another study, objective and subjective measures of hearing ability were taken from participants whose identity either as an 'individual' or an 'older group member' had been made more salient (St Claire & He, 2009). Results showed that, whilst there were no differences in objective levels of hearing ability, participants whose identity as an 'older group member' had been made more salient rated their hearing as subjectively poorer than those whose identity as an 'individual' had been made more salient.

The results outlined above suggest that symptom perception is associated with self-categorisation as a member of a particular group, for example an illness group or an age

group. This is a specific association between symptom perception and social context. The model of symptom perception used in the current study relies on individual general tendencies and is therefore unable to account for both the specificity and the social nature of the association between symptom perception and social context as demonstrated in the studies above.

4.5.4. Summary

Overall, there is evidence in support of the model of symptom perception used in this study. Evidence supports the notion that external information, selective attention to the body, symptom attribution, negative affectivity, and somatisation all impact in the theorised direction on symptom perception. In addition, the factors of the model collectively explain around 40% of the variance in both physical and depressive symptom reporting. Nevertheless, research also suggests that factors more specific than general tendencies and more extensive than individual environments also appear to impact upon symptom perception. These include illness representations and social context. It appears that, whilst the factors of the model of symptom perception used in this study are associated with symptom perception, there are other factors also associated with symptom perception that are not accounted for by the model. Therefore the model used in this study appears to be a useful, but incomplete, model of symptom perception.

4.6 Clinical Implications

The purpose of this study was to investigate the reasons for men's lack of help seeking for depression, i.e. their relative lack of presence in clinical settings. The conclusions of this study suggest that future work should focus on further exploring men's help seeking for depression with the eventual aim of helping more men to seek help and to reach services. Nevertheless, the conclusions of this study do have implications for current clinical practice,

particularly in relation to the initial stages of help seeking and early contacts with services. Three aspects of this process are explored in more detail: the service response to men's help seeking, the assessment of men's depressive symptoms, and the assessment of symptom perception.

4.6.1. Service response to men's help seeking.

Evidence suggests men and those higher in masculinity are less likely than women and those lower in masculinity to seek help given the symptoms of depression (e.g. Section 1.3.3.2.). Research also suggests that men may seek help at a higher level of distress than women (Section 1.3.2.1.) and that men and those higher in masculinity have more negative attitudes towards seeking help than women and those lower in masculinity (Sections 1.3.1.2. and 1.3.3.3.). These insights about the process of men's help seeking for depression provide a framework within which to contextualise the occasions when men do seek help for depression.

Firstly, it could be reasonably hypothesised that men seeking help, by virtue of this help seeking, are likely to be in significant distress, whether or not this distress is openly disclosed or immediately evident. Secondly, it is likely that, given negative attitudes towards seeking help, men are likely to have tried other options to alleviate this distress prior to seeking help. This is likely to mean that there has been a delay in help seeking, a notion supported by evidence from large-scale community surveys (e.g. Wang et al., 2007).

The majority of health services operate a system of entry into the service whereby referrals are assessed against certain criteria to determine whether or not they appear suitable for service input and are eligible for assessment. This process also often includes a prioritisation of these assessments based on risk and need. Clinical judgement has an important role to play in this system and the contexts of men's help seeking for depression should be incorporated into these judgements. The considerations that, when men do present

for help, it is likely to be after a delay and in significant distress (even where this distress is not openly disclosed), could provide clinicians with justification for assessing or more highly prioritising men, in particular highly masculine men, whose referral, taken at face value, might not warrant this level of service. This inclusion of extra information about the contexts of referral might therefore help to improve clinical judgement in these situations.

In summary, the inclusion of research relating to men's help seeking for depression into clinical practice, has the potential to improve clinical judgement at the very first stage of service contact.

4.6.2. Assessment of depressive symptoms.

Despite the finding that men appear reluctant to seek help for depression (e.g. Section 1.2.), the results of this study suggest that men perceive symptoms of depression regardless of masculinity. This is important from a clinical point of view because it suggests that men are similarly aware of the symptoms of depression. The clinician's task, when men do seek help is therefore to enable men to disclose these symptoms. Given the suggestion that men's lack of help seeking for depression is likely to be the result of a process taking place between the perception of symptoms and the seeking of help, this process is also likely to interfere with the process of disclosure. Four ideas about how the process of disclosure might be facilitated are briefly discussed below, these are: heightened concern, use of pencil and paper or computer methods, normalisation, and use of measures of symptom perception.

4.6.2.1. Heightened concern.

As outlined above (Section 4.6.1.), inclusion of research knowledge about the process of men's help seeking provides clinicians with a contextual basis for assessment. Given suggestions that they tend to seek help at a higher threshold of distress and have more negative attitudes towards seeking help, clinicians should begin from a position of heightened concern about the well-being of men, particularly highly masculine men, when they do

present for help. This position justifies an in-depth exploration of men's presenting problems including direct questioning about depression. As a result, clinicians may be less likely to miss symptoms and difficulties as a result of men's reluctance to disclose information.

4.6.2.2. Use of pencil and paper or computer methods.

The use of the internet for the purposes of collecting data was useful in the current study, given evidence that collecting data in this way enhances disclosure (e.g. Section 4.3.4.). Whilst services are unlikely to provide care at the same level of anonymity as this research was conducted, research suggests that techniques such as these can enhance disclosure in clinical scenarios. For example, the use of computer or pencil and paper methods enhanced disclosure when compared to face-to-face methods in relation to questions about mental health (Epstein, Barker, & Kroutil, 2001) and HIV risk (Des Jarlais et al., 1999). Increased use of pencil and paper or computer-aided methods in assessment settings might therefore help men to disclose depressive symptoms.

4.6.2.3. Normalisation.

Final ideas relating to assessment come from therapeutic practice, in which many therapists have found benefits from openly talking about the impact of cultural conceptions of masculinity on their lives; this is the case in both individual (e.g. Mahalik, Talmadge, Locke, & Scott, 2005) and group settings (e.g. Richmond & Levant, 2003). Applying this to assessment, clinicians might consider talking about the impact of masculinity on the disclosure of personal information, or the process of seeking help, in order to facilitate the process of assessment. In line with the principles of normalisation (e.g. Turkington & Kingdon, 1991), simply stating that men often delay seeking help and often find it difficult to disclose information about symptoms or distress may be beneficial in terms of enhancing disclosure.

4.6.2.4. Summary

In summary, the findings of the current study, in the context of previous research in the area, suggest that, in assessment, clinicians should work to assist men to disclose their symptoms and distress. Ideas about how this might be achieved include beginning from a position of heightened concern, using pencil and paper or computer aided assessment tools, and using normalisation techniques.

4.6.3. Assessment of symptom perception

A clinically important finding of the study is that the factors of the model of symptom perception account for 38% of the variance in depressive symptom reporting, which supports findings from a study in physical health (Kolk, Hanewald, Schagen, & Gijbbers van Wijk, 2003). This finding, combined with the fact that the measures of the factors of symptom perception used in this study take around five minutes to complete, provides an extra avenue of exploration for the clinician. The inclusion of the three measures of symptom perception in an assessment could provide clinicians with additional information, which may help the process of formulation and intervention. For example, a formulation for an individual scoring very low on external information might focus on their lack of activity, whereas a formulation for an individual scoring particularly high on psychological attribution or selective attention to the body might focus on their cognitive processes or biases.

Clearly there is further research to be undertaken to provide a detailed exploration of the utility of these measures (as outlined in Section 4.5.1.1.), but there is enough evidence to suggest that they may be clinically worthwhile, particularly given that they are quick and easy to complete.

4.6.4. Summary

It is suggested that knowledge gained from the results of the current study, in the context of previous research, be incorporated into clinical practice. Specifically, it is

considered that men seeking help are likely to be in significant distress and are likely to have delayed help seeking. Incorporating this information into the assessment of suitability and priority for service input has the potential to improve clinical judgements at the first contact with services. Incorporating this information into the assessment process with men, for example by beginning from a position of heightened concern, making use of pencil and paper or computer-aided methods, and using normalisation techniques, has the potential to improve the assessment process. Both of these interventions are likely to improve men's experiences in their early contacts with services. In addition, there is a strong argument for incorporating measures of symptom perception into assessments of depression to assist clinicians in developing formulations and plans for intervention.

4.7. Future Directions

There are three recommendations made on the basis on previous research and the findings of this study. These are outlined below.

4.7.1. Incorporate theory.

Future research into men's help seeking behaviours for depression should take account of the theory available in relation to both help seeking and masculinity. A great deal of theory exists in relation to both of these constructs, as was outlined in the Introduction. In spite of this, a failure to properly integrate theories of help seeking into research designs has resulted in pockets of research that do not lend themselves to easy integration and make few recommendations for intervention. A failure to consider the theory and development of measures of masculinity has resulted in measures that have been widely criticised (such as the BSRI, Section 1.3.3.1.2.) being also continually widely utilised. Future research should ensure that the instruments used to measure the constructs of interest are carefully considered and that the study is properly situated in terms of its theory of help seeking behaviour, the

aspect of help seeking that will be investigated, and how any findings will fit with existing research and contribute to the furthering of knowledge.

4.7.2. Broaden the sample.

It could be argued that research into men's help seeking behaviour for depression is relevant solely to the US student population. This is due to the fact that the vast majority of research in this area has been conducted in convenience samples of largely Caucasian, undergraduate men (Addis, 2008). Thus, the majority of knowledge relating to men and depression is based on extrapolation from this population. In addition, the generalising of results of depressed mood in college populations to other men with clinical levels of depression has been questioned (Kendall & Flannery-Schroeder, 1995). Future research should make a greater effort, as in the current study, to ensure that more diverse populations of men are better represented in this important area of research.

4.7.3. Measure masculinity.

One of the weaknesses of the current study is that there are questions about the validity of the measure of masculinity used. Current theories of masculinity propose the existence of a dominant and powerful form of masculinity that is socially constructed. The measures all begin with a definition of this dominant form of masculinity, but given its socially constructed nature, this definition is specific to the *Zeitgeist*.

As outlined above (Section 4.4), the MRNI-R, like many measures of masculinity, was developed and normed in a relatively homogeneous population of US college students. There are therefore questions in relation to the validity of the measure when it is used in other populations. These questions are a serious caveat to the findings of this study and should be addressed in future.

4.7.3. Summary

Three important problems with research into men's help seeking behaviours for depression were revealed through the process of this review of the literature and the results of the current study. Future research should ensure that it is theoretically driven from the outset, that it makes efforts to broaden the sample of men included in research, and that it ensures, where a measure of masculinity is employed, that this measure is valid both in terms of its theoretical background and construction and in terms of the population under study.

4.8. Overall Conclusions

This is the first known study to test whether symptom perception mediates associations between masculinity and men's reported depressive symptoms. It addressed many of the weaknesses of previous studies by targeting a non-student UK population and designing the study around a model of symptom perception to make clear, testable predictions. It was hypothesised that the factors of a model of symptom perception would mediate an association between higher masculinity and fewer reported depressive symptoms.

There was no relationship between masculinity and depression and, counter to prediction, men who endorsed traditional masculinity ideology to a greater extent were more likely than their counterparts to notice bodily sensations. There was good support for the utility of the model of symptom perception.

Consideration of the strengths and weaknesses of the study suggests that although there were issues in relation to the generalisability of the sample and the validity of the measure of masculinity, the study as a whole was well designed and adequately powered to test its hypotheses. The results also provide considerable support for the utility of the model of symptom perception in relation to perception of depressive symptoms. This, the first known study to directly examine the association between masculinity and symptom

perception, therefore concludes that men's lack of help seeking for depression is unlikely to be related to differences in the perception of depressive symptoms.

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Why Don't Men Seek Help for Depression?
The Impact of Masculinity on Symptom Perception

List of Appendices

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Appendix A: Detailed Search Strategies

PsychInfo: (Masculin*.ti,ab OR Masculinity/ OR Men.ti OR Male*.ti OR HUMAN MALES/ OR HUMAN SEX DIFFERENCES/ OR gender ADJ differenc*.ti,ab OR sex ADJ difference*.ti,ab) AND (Help adj seek*.ti,ab OR HELP SEEKING BEHAVIOR/ OR HEALTH CARE SEEKING BEHAVIOR/) AND (exp MENTAL DISORDERS/ OR exp MENTAL HEALTH/ OR MAJOR DEPRESSION/ OR depress*.ti,ab OR exp MENTAL HEALTH SERVICES/ OR exp COUNSELING/ OR PSYCHOTHERAPY/ OR counsel*.ti,ab OR Psycholog*.ti,ab OR Psychotherap*.ti,ab) NOT Dissertation*.jn

Medline: (Masculin*.ti,ab OR Men.ti OR Male*.ti OR MEN/ OR (HUMANS/ AND *MALE/) OR gender ADJ Differenc*.ti,ab OR sex ADJ differenc*.ti,ab) AND (Help adj seek*.ti,ab OR PATIENT ACCEPTANCE OF HEALTH CARE/) AND (exp MENTAL DISORDERS/ OR exp MENTAL HEALTH/ OR MAJOR DEPRESSION/ OR depress*.ti,ab OR exp MENTAL HEALTH SERVICES/ OR exp COUNSELING/ OR PSYCHOTHERAPY/ OR counsel*.ti,ab OR Psycholog*.ti,ab OR Psychotherap*.ti,ab) NOT Dissertation*.jn

CINAHL: (Masculin*.ti,ab OR Men.ti OR Male*.ti OR MEN/ OR(HUMANS/ AND *MALE/) OR “Gender Differenc*”.ti,ab OR “Sex Differenc*”.ti,ab) AND (“Help seek*”.ti,ab OR “Seek* help”.ti,ab OR HELP SEEKING BEHAVIOR/) AND (exp MENTAL DISORDERS/ OR exp MENTAL HEALTH/ OR MAJOR DEPRESSION/ OR depress*.ti,ab OR exp MENTAL HEALTH SERVICES/ OR exp COUNSELING/ OR PSYCHOTHERAPY/ OR counsel*.ti,ab OR Psycholog*.ti,ab OR Psychotherap*.ti,ab) NOT Dissertation*.jn

Embase: (Masculin*.ti,ab OR Men.ti OR Male*.ti OR (HUMANS/ AND *MALE/
OR "Gender Differenc*" .ti,ab OR "Sex Differenc*" .ti,ab) AND ("Help seek*" .ti,ab OR
"Seek* help" .ti,ab OR HELP SEEKING BEHAVIOR/) AND (exp MENTAL DISORDERS/
OR exp MENTAL HEALTH/ OR MAJOR DEPRESSION/ OR depress*.ti,ab OR exp
MENTAL HEALTH SERVICES/ OR exp COUNSELING/ OR PSYCHOTHERAPY/ OR
counsel*.ti,ab OR Psycholog*.ti,ab OR Psychotherap*.ti,ab) NOT Dissertation*.jn

Appendix B

Measures included in the study are provided on the 10 subsequent pages.

CENTER FOR EPIDEMIOLOGIC STUDIES—DEPRESSION SCALE

Circle the number of each statement which best describes how often you felt or behaved this way – DURING THE PAST WEEK.

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of the time (3-4 days)	Most or all of the time (5-7 days)
During the past week:	0	1	2	3
1) I was bothered by things that usually don't bother me	0	1	2	3
2) I did not feel like eating; my appetite was poor	0	1	2	3
3) I felt that I could not shake off the blues even with help from my family and friends	0	1	2	3
4) I felt that I was just as good as other people	0	1	2	3
5) I had trouble keeping my mind on what I was doing	0	1	2	3
6) I felt depressed	0	1	2	3
7) I felt that everything I did was an effort	0	1	2	3
8) I felt hopeful about the future	0	1	2	3
9) I thought my life had been a failure	0	1	2	3
10) I felt fearful	0	1	2	3
11) My sleep was restless	0	1	2	3
12) I was happy	0	1	2	3
13) I talked less than usual	0	1	2	3
14) I felt lonely	0	1	2	3
15) People were unfriendly	0	1	2	3
16) I enjoyed life	0	1	2	3
17) I had crying spells	0	1	2	3
18) I felt sad	0	1	2	3
19) I felt that people disliked me	0	1	2	3
20) I could not get "going"	0	1	2	3

MRNI-R

Please complete the questionnaire by circling the number which indicates your level of agreement or disagreement with each statement. Give only one answer for each statement.

	Strongly Disagree	Disagree	Slightly Disagree	No Opinion	Slightly Agree	Agree	Strongly Agree
1. Homosexuals should never marry.							
2. The President of the US should always be a man.							
3. Men should be the leader in any group.							
4. A man should be able to perform his job even if he is physically ill or hurt.							
5. Men should not talk with a lisp because this is a sign of being gay.							
6. Men should not wear make-up, cover-up or bronzer.							
7. Men should watch football games instead of soap operas.							
8. All homosexual bars should be closed down.							
9. Men should not be interested in talk shows such as Oprah.							
10. Men should excel at contact sports.							
11. Boys should play with action figures not dolls.							
12. Men should not borrow money from friends or family members.							
13. Men should have home improvement skills.							
14. Men should be able to fix most things around the house.							
15. A man should prefer watching action movies to reading romantic novels.							
16. Men should always like to have sex.							
17. Homosexuals should not be allowed to serve in the military.							
18. Men should never compliment or flirt with another male.							
19. Boys should prefer to play with trucks rather than dolls.							
20. A man should not turn down sex.							
21. A man should always be the boss.							
22. A man should provide the discipline in the family.							
23. Men should never hold hands or show affection toward another.							
24. It is ok for a man to use any and all means to "convince" a woman to have sex.							
25. Homosexuals should never kiss in public.							

26. A man should avoid holding his wife's purse at all times.							
27. A man must be able to make his own way in the world.							
28. Men should always take the initiative when it comes to sex.							
29. A man should never count on someone else to get the job done.							
30. Boys should not throw baseballs like girls.							
31. A man should not react when other people cry.							
32. A man should not continue a friendship with another man if he finds out that the other							
33. Being a little down in the dumps is not a good reason for a man to act depressed.							
34. If another man flirts with the women accompanying a man, this is a serious							
35. Boys should be encouraged to find a means of demonstrating physical prowess							
36. A man should know how to repair his car if it should break down.							
37. Homosexuals should be barred from the teaching profession.							
38. A man should never admit when others hurt his feelings.							
39. Men should get up to investigate if there is a strange noise in the house at night.							
40. A man shouldn't bother with sex unless he can achieve an orgasm.							
41. Men should be detached in emotionally charged situations.							
42. It is important for a man to take risks, even if he might get hurt.							
43. A man should always be ready for sex.							
44. A man should always be the major provider in his family.							
45. When the going gets tough, men should get tough.							
46. I might find it a little silly or embarrassing if a male friend of mine cried over a love							
47. Fathers should teach their sons to mask fear.							
48. I think a young man should try to be physically tough, even if he's not big.							
49. In a group, it is up to the men to get things organized and moving ahead.							
50. One should not be able to tell how a man is feeling by looking at his face.							
51. Men should make the final decision involving money.							
52. It is disappointing to learn that a famous athlete is gay.							
53. Men should not be too quick to tell others that they care about them.							

MRNI-R Scoring subscales and total score

To obtain subscale scores compute the means of the items for that scale. These are designated below by the number as they appear on the instrument.

$$\text{Avoidance of Femininity} = (6+7+9+11+15+19+26+30)/8$$

$$\text{Fear and Hatred of Homosexuals} = (1+5+8+17+18+23+25+32+37+52)/10$$

$$\text{Extreme Self-Reliance} = (4+12+13+14+27+29+36)/7$$

$$\text{Aggression} = (10+34+35+39+42+45+48)/7$$

$$\text{Dominance} = (2+3+21+22+44+49+51)/7$$

$$\text{Non-relational Attitudes toward Sexuality} = (16+20+24+28+40+43)/6$$

$$\text{Restrictive Emotionality} = (31+33+38+41+46+47+50+53)/8$$

To obtain Total Scale, take the mean of all of the items.

The External Information Questionnaire (EIQ)

Today,	Not at all true				Very True
1. was pretty much the same as other days.*	1	2	3	4	5
2. I had too much to think about.	1	2	3	4	5
3. I would not have wanted to trade places with any-one else.	1	2	3	4	5
4. I did not have enough time.	1	2	3	4	5
5. I could carry out most of my daily routine without giving it a thought.*	1	2	3	4	5
6. I did not have much to do.*	1	2	3	4	5
7. my life was a routine.*	1	2	3	4	5
8. I felt like I was in a straightjacket.*	1	2	3	4	5
9. there was enough room for self-expression.	1	2	3	4	5
10. there was a lot of variation.	1	2	3	4	5
11. I found most things that I did not interesting.*	1	2	3	4	5
12. I had (too) many social obligations.	1	2	3	4	5
13. my work- or study-pressure was too high.	1	2	3	4	5
14. I got bored.*	1	2	3	4	5
15. I spent the day on my own.*	1	2	3	4	5
16. I had to perform meaningless activities.*	1	2	3	4	5
17. I had to do too many things at the same time.	1	2	3	4	5
18. I had nothing meaningful to do.*	1	2	3	4	5

Items with * are reverse scored. All items rated on a 5-point Likert scale ranging from not at all true (1) to very true (5).

The Body Awareness Questionnaire (BAQ)

	Not at all true about me						Very true about me
I notice differences in the way my body reacts to various foods.	1	2	3	4	5	6	7
I can always tell when I bump myself whether or not it will become a bruise.	1	2	3	4	5	6	7
I always know when I've exerted myself to the point where I'll be sore the next day.	1	2	3	4	5	6	7
I am always aware of changes in my energy level when I eat certain foods.	1	2	3	4	5	6	7
I know in advance when I'm getting the flu.	1	2	3	4	5	6	7
I know I'm running a fever without taking my temperature.	1	2	3	4	5	6	7
I can distinguish between tiredness because of hunger and tiredness because of lack of sleep.	1	2	3	4	5	6	7
I can accurately predict what time of day lack of sleep will catch up with me.	1	2	3	4	5	6	7
I am aware of a cycle in my activity level throughout the day.	1	2	3	4	5	6	7
I <i>don't</i> notice seasonal rhythms and cycles in the way my body functions.	1	2	3	4	5	6	7
As soon as I wake up in the morning I know how much energy I'll have during the day.	1	2	3	4	5	6	7
I can tell when I go to bed how well I will sleep that night.	1	2	3	4	5	6	7
I notice distinct body reactions when I am fatigued.	1	2	3	4	5	6	7
I notice specific body responses to changes in the weather	1	2	3	4	5	6	7
I can predict how much sleep I will need at night in order to wake up refreshed.	1	2	3	4	5	6	7
When my exercise habits change, I can predict very accurately how that will affect my energy level.	1	2	3	4	5	6	7
There seems to be a 'best' time for me to go to sleep at night.	1	2	3	4	5	6	7
I notice specific bodily reactions to being overhungry.	1	2	3	4	5	6	7

Note: Item 10 is reverse scored. Each item is rated on a 7-point Likert scale ranging from *not at all true about me* (1) to *very true about me* (7).

Somatic Interpretation Questionnaire (SIQ)

Listed below are conditions you may or may not have ever experienced. For each condition, please choose the reason that best corresponds to your explanation of the condition.

1. If I had a *prolonged headache*, I would probably think that it is because:
 - I am emotionally upset
 - There is something wrong with my muscles, nerves or brain
 - A loud noise, bright light or something else has irritated me

2. If I was *sweating a lot*, I would probably think that it is because:
 - I must have a fever or infection
 - I'm anxious or nervous
 - The room is too warm, I'm overdressed or working too hard

3. If I got *dizzy all of a sudden*, I would probably think it is because:
 - There is something wrong with my heart or blood pressure
 - I am not eating enough or I got up too quickly
 - I must be under a lot of stress

4. If I noticed my *mouth was dry*, I would probably think that it is because:
 - I must be scared or anxious about something
 - I need to drink more liquids
 - There is something wrong with my salivary glands

5. If I felt my *heart pounding in my chest*, I would probably think that it is because:
 - I've exerted myself or drunk a lot of coffee
 - I must be really excited or afraid
 - There must be something wrong with my heart

6. If I felt *fatigued*, I would probably think that it is because:
 - I'm emotionally exhausted or discouraged
 - I've been over-exerting myself or not exercising enough
 - I'm anaemic or my blood is weak

7. If I noticed my *hand trembling*, I would probably think that it is because:
 - I might have some sort of neurological problem
 - I'm very nervous
 - I've tired the muscle in my hand

8. If I had *trouble sleeping*, I would probably think that it is because:
 - Some kind of pain or physical discomfort is keeping me awake
 - I'm not tired or I had too much coffee
 - I'm worrying too much or I must be nervous about something

9. If my *stomach was upset*, I would probably think that it is because:
 - I've worried myself sick
 - I have the flu or stomach irritation
 - I've had something to eat that did not agree with me

10. If I *lost my appetite*, I would probably think that it is because:
- I've been eating too much or my body doesn't need as much food as before
 - I'm worrying so much that food just doesn't taste good any more
 - I've had something to eat that did not agree with me
11. If I had a *hard time catching my breath*, I would probably think that it is because:
- My lungs are congested from infection, irritation or heart trouble
 - The room is stuffy or there is too much pollution in the air
 - I'm over-excited or anxious
12. If I *noticed numbness or tingling in my hands or feet*, I would probably think that it is because:
- I'm under emotional stress
 - There is something wrong with my nerves or blood circulation
 - I am cold or my hand or foot went to sleep
13. If I was *constipated or irregular*, I would probably think that it is because:
- There is not enough fruit or fibre in my diet
 - Nervous tension is keeping me from being regular
 - There is something wrong with my bowels or intestines

Appendix C

Typical Introductory Conversation with Employers

Hello,

My name is Lawrence Howells and I am a Trainee Clinical Psychologist Studying at the University of East Anglia.

As part of my studies I am doing research looking at men and depression, and in particular, why so many men don't seek help for depression.

It is an internet study that takes around 15 minutes to complete and participants have the opportunity to enter a prize draw to win a Red Letter Day.

What I'm doing is contacting important employers in the region, asking them if they might consider making their staff aware of the study. Just using whatever existing lines of communication they have with staff to let them know of its existence. I was wondering whether _____ might consider involvement?

Appendix D

Example Email to Employers

Dear [NAME],

Further to our conversation today, please find attached further information about my study. I appreciate your time in reading this short email.

My name is Lawrence Howells and I am a Trainee Clinical Psychologist studying at the University of East Anglia. As part of my studies I am undertaking a research project.

Depression is a problem for many people and many employers in today's society. Despite this, we know that many people, particularly men, have depression and do not seek help for it. My research aims to investigate the possible reasons for this lack of help seeking.

I am asking employers across East Anglia to make their staff aware of the survey. It is an internet survey open to all men and takes around 15 minutes to complete. Individuals participating have the chance to enter a prize draw to win a 'Red Letter Day'.

As an important local employer with an interest in the wellbeing of its staff, I was hoping that [EMPLOYER NAME] would consider involvement with this research. All I am asking is that you use your existing lines of communication with staff (e.g. email, intranet, newsletters) to make them aware of the study.

Further information is attached to this email. I would also be very happy to discuss the matter further, by email, telephone, or in person. My mobile number is [MOBILE NUMBER].

Many thanks for your consideration.

Lawrence Howells

Appendix E

Suggested Content for Employers' Email / Intranet Post to Staff

Survey for All Men: Win a Red Letter Day! (HEADING)

A member of the University of East Anglia is conducting a short survey about men's wellbeing. It is an internet survey that takes just 15 minutes to complete.

Men completing this survey can enter a prize draw to win a £100 Red Letter Day gift voucher. This voucher can be used to pay for over 100 experiences including driving a Lamborghini, piloting a light aircraft, whiskey or wine tasting for two, or lunch and the London Eye for two.

Please click this link for further information.

[LINK]

Thank you very much for reading this email.

Study For Men

1. WIN A RED LETTER DAY!!

Want to drive a Lamborghini?



Or fly a light aircraft



Or whiskey tasting for two?



Or perhaps a Thames lunch cruise

Men completing this survey can enter a prize draw to win a £100 Red Letter Day gift voucher. This voucher can be used to pay for over 100 experiences including, driving a Lamborghini, piloting a light aircraft, whiskey tasting for two, or lunch and the London Eye for two.

The survey is open to men only and will take around 15 minutes to complete.

The survey has now been extended until 12 March 2010 and the winner will be drawn at random on 13 March 2010.

Click next at the bottom for more details.

2. Study Information for Participants (1)

The next two pages contain important information about this study. The questions follow.

You are being asked to provide consent to take part in a research study. Before you decide it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information and discuss with others if you wish. Please do not hesitate to contact me to ask about anything that is not clear or if you would like more information. Take time to decide whether or not to take part. Thank you for reading this.

What is the purpose of the study? We know that many people have depression and do not seek help for it. We also know that men are even less likely to seek help for depression than women. We think that men might experience depression differently to women and are interested in why this might be.

Who can take part? We are asking all men to take part. We would like to have responses from men who are not depressed as well as from men who may experience some symptoms of depression. We would also like to have responses from a variety of men in terms of their age, educational level, income level, marital status, occupation, religion, or cultural background.

Do I have to take part? It is up to you whether you decide to take part in this study. If you decide to take part, please tick the boxes on this page to say that you have read and understood this information, and that you agree to take part. You do not have to give a reason if you do not want to take part.

What will happen to me if I take part? If you decide to take part, we will ask you to complete a questionnaire online. Once you have completed this questionnaire and clicked the submit button, that is all you have to do. A brief outline of the results of the study will be available on the internet once they are available.

What do I have to do next? If you would like to take part, check the boxes to say that you have read and understood this information, and that you agree to take part. Then click on the link provided and follow the on-screen instructions. The questionnaire will take about 20 minutes to complete.

What are the possible disadvantages of taking part? The only disadvantage of taking part is the time taken to complete the questionnaire.

What are the possible advantages of taking part? Participants have the option of entering a prize draw to win an orange 'Red Letter Day' which entitles the winner to a choice of days out including driving experiences, light aircraft flying and wine tasting.

What happens when the study stops? What happens to the results of the study? This study will last approximately one year. The information generated through this study will be used by Lawrence Howells, a trainee clinical psychologist, for a research project as part of his Doctorate in Clinical Psychology degree at the University of East Anglia. We will also write about what we find and send this to a scientific journal that will review our findings and may decide to publish them. No personally identifiable information about research participants will be used throughout this process.

Where should I direct any comments or concerns? If you have any comments or concerns, please contact the researchers using the details below. If you think that you may have depression, or are concerned about issues raised in this research please contact your General Practitioner, or NHS Direct [link to NHS Direct](#) (0845 4647), the Samaritans (08457 90 90 90), or the Royal College of Psychiatrists [link to RCP](#)

3. Study Information for Participants (2)

Will my taking part in this research study be kept confidential? We will not collect any directly personal data about you in this study. All the information we do collect about you will be kept secure and confidential.

Who has reviewed this study? This study has been reviewed by the Faculty of Health Ethics committee at the University of East Anglia. They have given this study a favourable ethical opinion.

Contact for further information?

Lawrence Howells/ Dr Imogen Hobbis

Elizabeth Fry Building

University of East Anglia

Norwich NR4 7TJ Tel: 01603 593310 Fax: 01603 593604

★ **1. Please select one of the choices below**

I confirm that I am male, that I have read and understand the study information, and agree to take part in the study

No, I do not wish to take part in this study

4. Thank you

Thank you for agreeing to take part in this study.

The study is divided into six sections.

It should take around 15 minutes to complete.

Click next at the bottom to begin.

5. Questions: page 1 of 6

Please answer the following questions about yourself.

* **1. What is your age?**

- under 20
- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- over 79
- Rather not say

* **2. What is your current relationship status?**

- Single
- Boyfriend/Girlfriend
- Cohabiting
- Married/Civil Partnership
- Divorced
- Widower
- Rather not say

* **3. What is the highest qualification that you hold?**

- No formal qualifications
- GCSE Level qualification (e.g. GCSE, O-Levels or Standards)
- A-Level qualification (e.g. A, AS, S-Levels, Highers)
- Vocational qualification (e.g. NVQ, HNC, HND)
- Degree or Graduate qualification (e.g. BSc, BA)
- Post-graduate qualification (e.g. PhD, MSc, MA)
- Rather not say

* 4. What is your employment status?

Full-Time work

Part-Time work

Unemployed

Student

Homemaker

Retired

Rather not say

* 5. What is your annual household income before tax?

Under £10,000

£10,000-£14,999

£15,000-£19,999

£20,000-£24,999

£25,000-£29,999

£30,000-£39,999

£40,000-£49,999

£50,000-£74,999

£75,000-£99,999

Over £100,000

Rather Not Say

* 6. How would you best describe your ethnic background?

- White British
- White Irish
- Any other White background
- Mixed White and Black Caribbean
- Mixed White and Black African
- Mixed White and Asian
- Any other mixed background
- Indian
- Pakistani
- Bangladeshi
- Any other Asian background
- Black or Black British Caribbean
- Black or Black British African
- Any other Black background
- Chinese
- Any other ethnic group
- Rather not say

6. Questions: page 2 of 6

Below are some statements about yourself. Please choose one of the points on the rating scale of 1 to 7, where 1 = 'Not at all true about me' and 7 = 'Very true about me'.

* **1. Please choose one point on the rating scale of 1 - 7 for each of the statements below.**

	1 = Not at all true about me	2	3	4	5	6	7 = Very true about me
I notice differences in the way my body reacts to various foods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can always tell when I bump myself whether or not it will become a bruise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always know when I've exerted myself to the point where I'll be sore the next day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always aware of changes in my energy level when I eat certain foods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know in advance when I'm getting the flu.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know I'm running a fever without taking my temperature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can distinguish between tiredness because of hunger and tiredness because of lack of sleep.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can accurately predict what time of day lack of sleep will catch up with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am aware of a cycle in my activity level throughout the day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't notice seasonal rhythms and cycles in the way my body functions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As soon as I wake up in the morning I know how much energy I'll have during the day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can tell when I go to bed how well I will sleep that night.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I notice distinct body reactions when I am fatigued.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I notice specific body responses to changes in the weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can predict how much sleep I will need at night in order to wake up refreshed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When my exercise habits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Study For Men

change, I can predict very accurately how that will affect my energy level.

There seems to be a 'best' time for me to go to sleep at night.

jn

jn

jn

jn

jn

jn

jn

I notice specific bodily reactions to being overhungry.

jn

jn

jn

jn

jn

jn

jn

7. Questions: page 3 of 6

Below is a list of ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

*** 1. Please tell me how often you have felt this way DURING THE PAST WEEK**

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
I was bothered by things that usually don't bother me.	jn	jn	jn	jn
I did not feel like eating; my appetite was poor.	jn	jn	jn	jn
I felt that I could not shake off the blues even with help from my family or friends.	jn	jn	jn	jn
I felt I was just as good as other people.	jn	jn	jn	jn
I had trouble keeping my mind on what I was doing.	jn	jn	jn	jn
I felt depressed.	jn	jn	jn	jn
I felt that everything I did was an effort.	jn	jn	jn	jn
I felt hopeful about the future.	jn	jn	jn	jn
I thought my life had been a failure.	jn	jn	jn	jn
I felt fearful.	jn	jn	jn	jn
My sleep was restless.	jn	jn	jn	jn
I was happy.	jn	jn	jn	jn
I talked less than usual.	jn	jn	jn	jn
I felt lonely.	jn	jn	jn	jn
People were unfriendly.	jn	jn	jn	jn
I enjoyed life.	jn	jn	jn	jn
I had crying spells.	jn	jn	jn	jn
I felt sad.	jn	jn	jn	jn
I felt that people dislike me.	jn	jn	jn	jn
I could not get "going."	jn	jn	jn	jn

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8. Questions: page 4 of 6

Below are some statements about how you might feel TODAY. Please choose one point on the rating scale of 1 to 5, where 1 = 'Not at all true' and 5 = 'Very true'.

* **1. Please choose one point on the rating scale of 1 to 5 to signify your agreement with each of the following statements as they apply to you. TODAY...**

	1 Not at all true	2	3	4	5 Very true
1. was pretty much the same as other days.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I had too much to think about.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would not have wanted to trade places with any-one else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I did not have enough time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I could carry out most of my daily routine without giving it a thought.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I did not have much to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. my life was a routine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I felt like I was in a straightjacket.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. there was enough room for self-expression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. there was a lot of variation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I found most things that I did not interesting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I had (too) many social obligations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. my work- or study- pressure was too high.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I got bored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I spent the day on my own.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I had to perform meaningless activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I had to do too many things at the same time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I had nothing meaningful to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Questions: page 5 of 6

Please signify your agreement or disagreement with each of the following statements.

*** 1. Please signify your agreement/disagreement with each of the following statements.**

	Strongly disagree	Disagree	Slightly disagree	No opinion	Slightly agree	Agree	Strongly agree
1. Homosexuals should never marry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The President of the US should always be a man.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Men should be the leader in any group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. A man should be able to perform his job even if he is physically ill or hurt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Men should not talk with a lisp because this is a sign of being gay.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Men should not wear make-up, cover-up or bronzer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Men should watch football games instead of soap operas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. All homosexual bars should be closed down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Men should not be interested in talk shows such as Oprah.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Men should excel at contact sports.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Boys should play with action figures not dolls.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Men should not borrow money from friends or family members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Men should have home improvement skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Men should be able to fix most things around the house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. A man should prefer watching action movies to reading romantic novels.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Men should always like to have sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Homosexuals should not be allowed to serve in the military.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Men should never compliment or flirt with another male.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Boys should prefer to play with trucks rather than dolls.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. A man should not turn down sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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21. A man should always be the boss.	ja	ja	ja	ja	ja	ja	ja
22. A man should provide the discipline in the family.	ja	ja	ja	ja	ja	ja	ja
23. Men should never hold hands or show affection toward another.	ja	ja	ja	ja	ja	ja	ja
24. It is ok for a man to use any and all means to "convince" a woman to have sex.	ja	ja	ja	ja	ja	ja	ja
25. Homosexuals should never kiss in public.	ja	ja	ja	ja	ja	ja	ja
26. A man should avoid holding his wife's purse at all times.	ja	ja	ja	ja	ja	ja	ja
27. A man must be able to make his own way in the world.	ja	ja	ja	ja	ja	ja	ja
28. Men should always take the initiative when it comes to sex.	ja	ja	ja	ja	ja	ja	ja
29. A man should never count on someone else to get the job done.	ja	ja	ja	ja	ja	ja	ja
30. Boys should not throw baseballs like girls.	ja	ja	ja	ja	ja	ja	ja
31. A man should not react when other people cry.	ja	ja	ja	ja	ja	ja	ja
32. A man should not continue a friendship with another man if he finds out that the other man is homosexual.	ja	ja	ja	ja	ja	ja	ja
33. Being a little down in the dumps is not a good reason for a man to act depressed.	ja	ja	ja	ja	ja	ja	ja
34. If another man flirts with the women accompanying a man, this is a serious provocation and the man should respond with aggression.	ja	ja	ja	ja	ja	ja	ja
35. Boys should be encouraged to find a means of demonstrating physical prowess	ja	ja	ja	ja	ja	ja	ja
36. A man should know how to repair his car if it should break down.	ja	ja	ja	ja	ja	ja	ja
37. Homosexuals should be barred from the teaching profession.	ja	ja	ja	ja	ja	ja	ja
38. A man should never admit when others hurt his feelings.	ja	ja	ja	ja	ja	ja	ja
39. Men should get up to investigate if there is a strange noise in the house	ja	ja	ja	ja	ja	ja	ja

Study For Men

at night.

40. A man shouldn't bother with sex unless he can achieve an orgasm. jn jn jn jn jn jn jn

41. Men should be detached in emotionally charged situations. jn jn jn jn jn jn jn

42. It is important for a man to take risks, even if he might get hurt. jn jn jn jn jn jn jn

43. A man should always be ready for sex. jn jn jn jn jn jn jn

44. A man should always be the major provider in his family. jn jn jn jn jn jn jn

45. When the going gets tough, men should get tough. jn jn jn jn jn jn jn

46. I might find it a little silly or embarrassing if a male friend of mine cried over a love story. jn jn jn jn jn jn jn

47. Fathers should teach their sons to mask fear. jn jn jn jn jn jn jn

48. I think a young man should try to be physically tough, even if he's not big. jn jn jn jn jn jn jn

49. In a group, it is up to the men to get things organized and moving ahead. jn jn jn jn jn jn jn

50. One should not be able to tell how a man is feeling by looking at his face. jn jn jn jn jn jn jn

51. Men should make the final decision involving money. jn jn jn jn jn jn jn

52. It is disappointing to learn that a famous athlete is gay. jn jn jn jn jn jn jn

53. Men should not be too quick to tell others that they care about them. jn jn jn jn jn jn jn

10. Questions: page 6 of 6

Listed below are conditions you may or may not have experienced. For each condition please choose the reason that best corresponds to your explanation of the condition.

1. If I had a prolonged headache, I would probably think that it is because:

- I am emotionally upset
- There is something wrong with my muscles, nerves or brain
- A loud noise, bright light or something else has irritated me

2. If I was sweating a lot, I would probably think that it is because:

- I must have a fever or infection
- I'm anxious or nervous
- The room is too warm, I'm overdressed or working too hard

3. If I got dizzy all of a sudden, I would probably think it is because:

- There is something wrong with my heart or blood pressure
- I am not eating enough or I got up too quickly
- I must be under a lot of stress

4. If I noticed my mouth was dry, I would probably think that it is because:

- I must be scared or anxious about something
- I need to drink more liquids
- There is something wrong with my salivary glands

5. If I felt my heart pounding in my chest, I would probably think that it is because:

- I've exerted myself or drunk a lot of coffee
- I must be really excited or afraid
- There must be something wrong with my heart

6. If I felt fatigued, I would probably think that it is because

- I'm emotionally exhausted or discouraged
- I've been over-exerting myself or not exercising enough
- I'm anaemic or my blood is weak

7. If I noticed my hand trembling, I would probably think that it is because:

- I might have some sort of neurological problem
- I'm very nervous
- I've tired the muscle in my hand

8. If I had trouble sleeping, I would probably think that it is because:

- Some kind of pain or physical discomfort is keeping me awake
- I'm not tired or I had too much coffee
- I'm worrying too much or I must be nervous about something

9. If my stomach was upset, I would probably think that it is because:

- I've worried myself sick
- I have the flu or stomach irritation
- I've had something to eat that did not agree with me

10. If I lost my appetite, I would probably think that it is because:

- I've been eating too much or my body doesn't need as much food as before
- I'm worrying so much that food just doesn't taste good any more
- I've had something to eat that did not agree with me

11. If I had a hard time catching my breath, I would probably think that it is because:

- My lungs are congested from infection, irritation or heart trouble
- The room is stuffy or there is too much pollution in the air
- I'm over-excited or anxious

12. If I noticed numbness or tingling in my hands or feet, I would probably think that it is because:

- I'm under emotional stress
- There is something wrong with my nerves or blood circulation
- I am cold or my hand or foot went to sleep

13. If I was constipated or irregular, I would probably think that it is because:

- There is not enough fruit or fibre in my diet
- Nervous tension is keeping me from being regular
- There is something wrong with my bowels or intestines

11. Prize Draw

Prize Draw!

Thank you very much for your participation in this study.

If you would like to enter the prize draw to win £100 Red Letter Gift Card, please complete your details below.

Your personal information will be stored separately from the data you entered as part of the survey and will only be used for the purposes of the prize draw.

The draw will be held on 15 March 2010. Terms & Conditions for the prize draw.

1. This free prize draw is open to all UK residents aged 16 or over, except for students and staff of the University of East Anglia Doctorate in Clinical Psychology Course, their families, agencies or any other company directly connected with the administration of this promotion, who complete registration on the study website by 12 March 2010. You do not need to buy anything to enter.

2. Registration completion is based on the following information being provided: name, home address and e-mail address. All registrations must be completed by 12 March 2010, to be valid entries in the draw.

3. One entry per person. Each unique email address qualifies as a single entry.

4. The draw will be made on 15 March 2010.

5. There is one prize of a £100 voucher for a 'Red Letter Day' to be won.

6. The winner will be drawn independently and at random from all valid entries received and will be notified by email within 72 hours of the actual draw date.

7. No alternative prize is available and the prize is not transferable.

8. For winner's details please send an email to: lawrence.howells@uea.ac.uk within 28 days of the draw date.

9. The winner will be asked to make their name available to those requesting the name of the winner.

10. By entering the free prize draw, entrants agree to be bound by the rules and by any other requirements set out in promotional material.

11. English law applies.

1. Please supply the following information.

Name

Address

Email address

* 2. Please answer the following question.

I confirm that I have read and understood the terms and conditions of the prize draw

I don't want to take part in the prize draw

12. End of Survey

Thank you for your interest in this study.

If you think that you may have depression, or are concerned about issues raised in this research, please contact your General Practitioner, or NHS Direct [link to NHS Direct](#) 0845 4647

Other useful organisations include:

Samaritans 08457 90 90 90

Royal College of Psychiatrists [link to RCP](#)



Appendix G

Information for Participants

University of East
Anglia
Norwich NR4 7TJ
England

Telephone
01603 593310

Fax
01603 593604

Study Information for Participants

You are being asked to provide consent to take part in a research study. Before you decide it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information and discuss with others if you wish. Please do not hesitate to contact me to ask about anything that is not clear or if you would like more information. Take time to decide whether or not to take part. Thank you for reading this.

What is the purpose of the study?

We know that many people have depression and do not seek help for it. We also know that men are even less likely to seek help for depression than women. We think that men might experience depression differently to women and are interested in why this might be.

Who can take part?

We are asking all men to take part. We would like to have responses from men who are not depressed as well as from men who may experience some symptoms of depression. We would also like to have responses from a variety of men in terms of their age, educational level, income level, marital status, occupation, religion, or cultural background.

Do I have to take part?

It is up to you whether you decide to take part in this study. If you decide to take part, please tick the boxes on this page to say that you have read and understood this information, and that you agree to take part.

You do not have to give a reason if you do not want to take part.

What will happen to me if I take part?

If you decide to take part, we will ask you to complete a questionnaire online. Once you have completed this questionnaire and clicked the submit button, that is all you have to do. A brief outline of the results of the study will be available on the internet once they are available.

What do I have to do next?

If you would like to take part, check the boxes to say that you have read and understood this information, and that you agree to take part. Then click on the link provided and follow the on-screen instructions. The questionnaire will take about 20 minutes to complete.

What are the possible disadvantages of taking part?

The only disadvantage of taking part is the time taken to complete the questionnaire.

What are the possible advantages of taking part?

Participants have the option of entering a prize draw to win an orange 'Red Letter Day' which entitles the winner to a choice of days out including driving experiences, light aircraft flying and wine tasting.

What happens when the study stops? What happens to the results of the study?

This study will last approximately one year.

The information generated through this study will be used by Lawrence Howells, a trainee clinical psychologist, for a research project as part of his Doctorate in Clinical Psychology degree at the University of East Anglia.

We will also write about what we find and send this to a scientific journal that will review our findings and may decide to publish them. No personally identifiable information about research participants will be used throughout this process.

Where should I direct any comments or concerns?

If you have any comments or concerns, please contact the researchers using the details below.

If you think that you may have depression, or are concerned about issues raised in this research please contact your General Practitioner, or NHS Direct (www.nhsdirect.nhs.uk; 0845 4647), the Samaritans (08457 90 90 90), or the Royal College of Psychiatrists (www.rcpsych.ac.uk).

Will my taking part in this research study be kept confidential?

We will not collect any directly personal data about you in this study. All the information we do collect about you will be kept secure and confidential.

Who has reviewed this study?

This study has been reviewed by the Faculty of Health Ethics committee at the University of East Anglia. They have given this study a favourable ethical opinion.

Contact for further information?

Lawrence Howells/ Dr Imogen Hobbis
Elizabeth Fry Building
University of East Anglia
Norwich NR4 7TJ
Tel: 01603 593310
Fax: 01603 593604

Appendix H

Letters relating to ethical approval are provided on the subsequent pages.

Lawrence Howells
Doctoral Programme in Clinical Psychology
University of East Anglia
NR4 7TJ

Research Office, Room 1.09
Chancellors Drive Annex
University of East Anglia
Norwich NR4 7TJ
United Kingdom

Email: Jane.Carter@uea.ac.uk
Tel: +44 (0) 1603 591023
Fax: +44 (0) 1603 591132

Web: www.uea.ac.uk
Web: <http://www.uea.ac.uk>

11 October 2010

Dear Lawrence

Why Don't Men Seek Help for Depression? The Impact of Masculinity on Symptom Experience - 2009028

The submission of your research proposal was discussed at the Ethics Committee meeting on 30 July 2009.

The committee were happy to approve your application in principle but have the following concerns which they would like you to address and amend accordingly:

- Appendix 3-participants could be distressed by the questions and therefore some support should be offered as to what the participants should do if they are depressed for example add links to NHS direct, Samaritans, Night line and the Royal college of Psychiatry
- Do not describe people as 'suffering from' depression use 'have'
- The exclusion and inclusion criteria need to be included in the protocol
- Need to include details of where the study takes place
- The results should be available at the site that the participants accessed the questionnaires and the time frame should be quoted
- Interpretation scores should be removed as participants may discover they are depressed.

Please write to me once you have resolved the above issues. I require documentation confirming that you have complied with the committee's suggestions. The committee have requested that you detail the changes below the relevant point on the text in this letter and also include your amendments as a tracked change within your application/proposal. The revisions to your application can be considered by chair's action rather than go to a committee meeting, which means that the above documentation can be resubmitted at any time. Please could you send your revisions to me as an attachment in an email as this will speed up the decision making process.

As your project does not have ethics approval until the above issues have been resolved, I want to remind you that you should not be undertaking your research project until you have ethical approval by the FoH Ethics Committee. Planning on the project or literature based elements can still take place but not the research involving the above ethical issues. This is to ensure that you and your research are insured by the University and that your research is undertaken within the University's 'Guidelines on Good Practice in Research' approved by the Senate in July 2004.

Yours sincerely,



Dr. Jane Carter



Lawrence Howells

Trainee Clinical
Psychologist
Lawrence.howells@u
ea.ac.uk

Dr Jane Carter
Research Office, Room 1.09
Chancellors Drive Annex
University of East Anglia
Norwich NR4 7TJ

Tuesday, 11 August 2009

Dear Dr Carter,

Why Don't Men Seek Help for Depression? The Impact of Masculinity on Symptom

Experience - 2009028

I would like to thank the committee for their useful comments following the Faculty of Health Ethics Committee meeting of 30th July 2009.

Please find detailed below my response to these comments. Please find attached revised study documentation with tracked changes to indicate where changes have been made.

- *Appendix 3-participants could be distressed by the questions and therefore some support should be offered as to what the participants should do if they are depressed for example add links to NHS direct, Samaritans, Night line and the Royal college of Psychiatry*

Please note additions to Appendix 3 and amendments to the application. Please also note that this paragraph will be reiterated and links provided to these organisations on the final page of the website that participants will access to complete the questionnaires.

- *Do not describe people as 'suffering from' depression use 'have'*

Please see amendments in Appendices 1, 2 and 3.

- *The exclusion and inclusion criteria need to be included in the protocol*

Please see the protocol (Version 6) under Participants, and the amended ethics forms.

- *Need to include details of where the study takes place*

As the study is an internet study, there is no research site. Participants are free to complete the questionnaires online wherever they choose. Recruitment will be conducted via employers as outlined in the protocol under Participants.

- *The results should be available at the site that the participants accessed the questionnaires and the time frame should be quoted*

Please see Protocol (Version 6) under Procedure.

- *Interpretation scores should be removed as participants may discover they are depressed.*

Interpretation scores were provided for the Ethics Committee's reference only. The online version of the questionnaires will not include these details. Apologies for not making this clear.

I hope that these responses and amendments meet with the committee's approval. Should you have any further concerns or questions, please do not hesitate to contact me via email.

Yours sincerely,

Lawrence Howells

Trainee Clinical Psychologist

Lawrence Howells
Doctoral Programme in Clinical Psychology
University of East Anglia
NR4 7TJ

Research Office, Room 1.09
Chancellors Drive Annex
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Web: www.uea.ac.uk
Web: <http://www.uea.ac.uk>

4th September 2009

Dear Lawrence

Why Don't Men Seek Help for Depression? The Impact of Masculinity on Symptom Experience - 2009028

The amendments to your above proposal have now been considered by the Chair of the FOH Ethics Committee and we can now confirm that your proposal has been approved.

Please could you ensure that any amendments to either the protocol or documents submitted are notified to us in advance and also that any adverse events which occur during your project are reported to the committee. Please could you also arrange to send us a report once your project is completed.

The committee would like to wish you good luck with your project.

Yours sincerely,



Jane Carter